ASCO™

Nuclear Products

Nuclear Products

Qualified to RCC-E Specifications

EMERSON™

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EMERSON™

Presenting ASCO Solutions

The trusted choice for nuclear power

ASCO is the global leader in nuclear-qualified solenoid valves for nuclear power plants. The ASCO heritage of leadership in this field began with the nuclear industry's inception. Original equipment manufacturers (OEMs), architect engineers, project managers, and utility engineers rely on us for all their nuclear power projects — from grassroots construction to life extension to modernisation and power uprates.

Our nuclear-qualified and critical-application solenoid valves, pressure and temperature switches, Hydramotor® actuators, and complete engineered valve solutions provide proven service in key safety and balance-of-plant applications.

Today, more than 440 nuclear power plants are now in operation worldwide, the ASCO Company will be nearly installed on every nuclear island. We've been the first choice worldwide supplier for PWR, BWR, and CANDU reactors from major manufacturers including WESTINGHOUSE, AREVA NP, GE-HITACHI, TOSHIBA, MITSUBISHI, AECL, EDF and CGNPC.

Choose from the industry's most reliable, proven, qualified selection of control solutions for global nuclear power applications. No other supplier can match the experience, applications expertise, and in-depth local response that have made ASCO the leader in its field.

Quality, Healthy, Security & Nuclear Safety organization

Qualifications agreements

Our referencies

Traçability...

Our challenges

Quality program

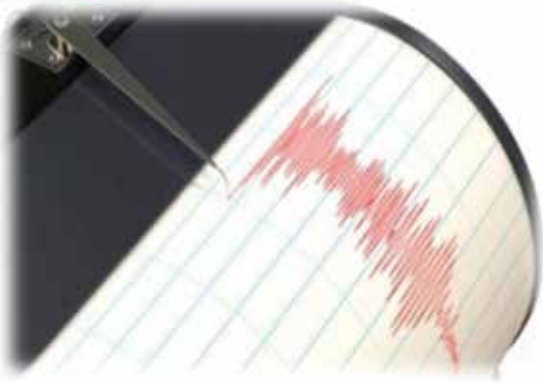
Our priority

Research & development

Our competency

Earthquake withstand calculation

NEW



Laboratory capability

Our knowledge

Air flow measurement

Water flow measurement

Air tank

Humidity coils test bench

Electrical test equipment

Climatic test chambers

Test life

Seismic test

Efficient Operations facility

Our flexibility

Solutions

Your plug & play

ASCO provides global engineered solutions to integrate valves into a complete customer/ qualified and tested package including valves, solenoid valves, filter & regulator, switches, tubing, electronics, and a control panel.

World Wide Channel

Our proximity: www.asco.com

Our experts speak not only your language: they speak nuclear

And their job is to make your job easier

Summary Nuclear products catalog

Qualifications level :

Summary Nuclear products catalog

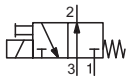
Summary Nuclear products catalog

SOLENOID VALVES

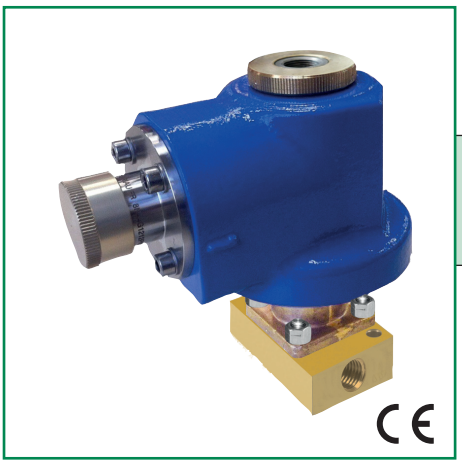
MB 301 F 3 G1/4"

K1 RCC-E

NO



3/2
Series
121



K1

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
  Accident 600 Kgy at 70°C
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *LOCA - Accident:* *LOCA RCC-E: 2 peaks at 5,6 bar, 156°C*
  Atmosphere chemical spray: 1,5% boric acid and 0,6% sodium hydroxide
  Post-accident: 100°C, 24 hours and HR = 100%
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP65	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

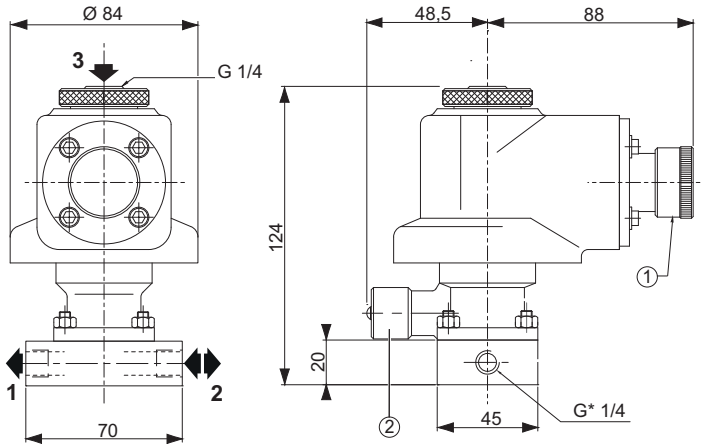
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	8	**12101313.48/DC** **12101313.125/DC**	MB301 F 3 - K1

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (G) is standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



weight
3

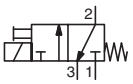
① QDC: Quick Disconnect Connector

② Manual operator location

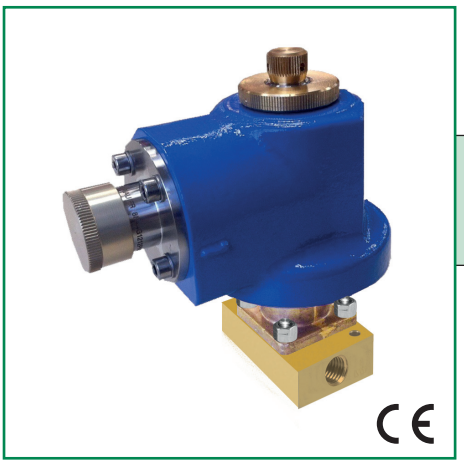
SOLENOID VALVES

MB 301 O 3 G1/4"

K1 RCC-E

NC 

3/2 Series 121



K1

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
  Accident 600 Kgy at 70°C
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *LOCA - Accident:* *LOCA RCC-E: 2 peaks at 5,6 bar, 156°C*
  Atmosphere chemical spray: 1,5% boric acid and 0,6% sodium hydroxide
  Post-accident: 100°C, 24 hours and HR = 100%
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP65	+5 to +50
125 VDC	14	16			

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SPECIFICATIONS

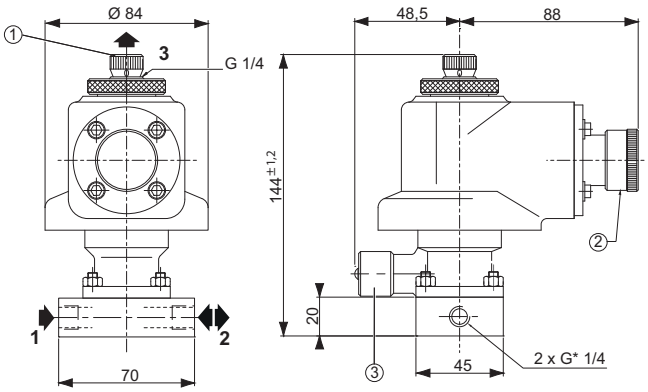
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference	orientation type
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.			
1/4	3	16	260	250	0	10	**12101311.48/DC**	MB301 O 3 - K1	01
							12101311.125/DC		
							12102104.48/DC		02
							12102104.125/DC		

INSTALLATION

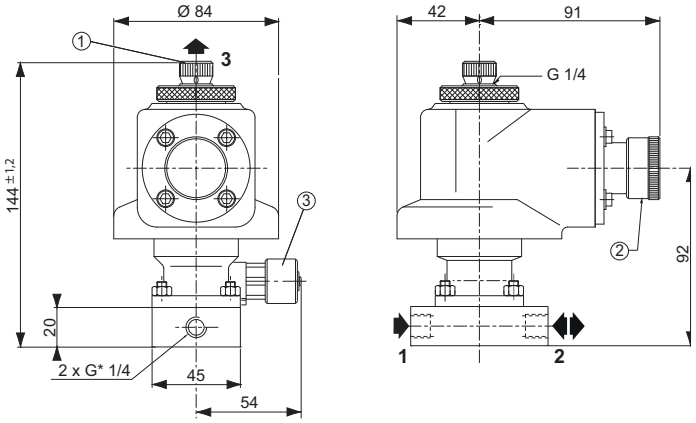
- The solenoid valve must always be installed with body vertical and solenoid operator upward
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (G) is standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)

TYPE 01



TYPE 02



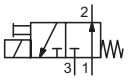
type	weight
01 / 02	3

(1) 3/2 NC: exhaust protector
(2) QDC: Quick Disconnect Connector
(3) Manual operator location

SOLENOID VALVES

V 301 F 5 Rp1/4"

K1 RCC-E

NO 

3/2 Series 131

K1

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
  Accident 600 Kgy at 70°C
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *LOCA - Accident:* *LOCA RCC-E: 2 peaks at 5,6 bar, 156°C*
  Atmosphere chemical spray: 1,5% boric acid and 0,6% sodium hydroxide
  Post-accident: 100°C, 24 hours and HR = 100%
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50
125 VDC	39	44			

VAMAC® is a registered trademark of Dupont Performance Elastomers

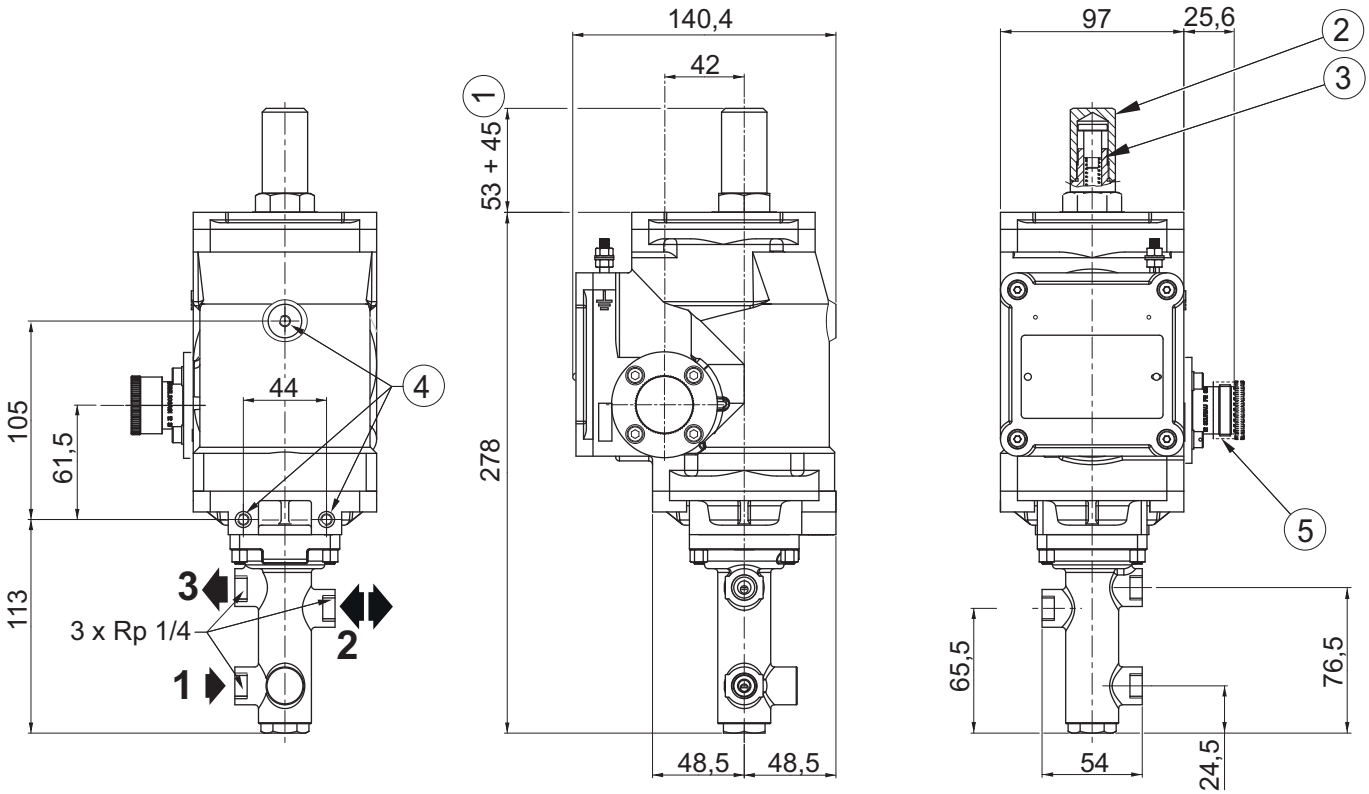
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m³/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**X131439755001H9**	V301 F 5 48/DC- K1
							X131439755002J1	V301 F 5 125/DC- K1

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



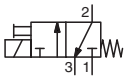
weight
7,9

(1) Dimension to be added to allow for removal
(2) Cover for manual operator
(3) Manual operator location
(4) 3 mounting holes M6, depth 9 mm
(5) QDC: Quick Disconnect Connector

SOLENOID VALVES

V 301 O 5 Rp1/4"

K1 RCC-E

NC 

3/2 Series 131

K1

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
  Accident 600 Kgy at 70°C
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *LOCA - Accident:* *LOCA RCC-E: 2 peaks at 5,6 bar, 156°C*
  Atmosphere chemical spray: 1,5% boric acid and 0,6% sodium hydroxide
  Post-accident: 100°C, 24 hours and HR = 100%mic component level (up to 30g from 1 Hz to 100 Hz)
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50
125 VDC	39	44			

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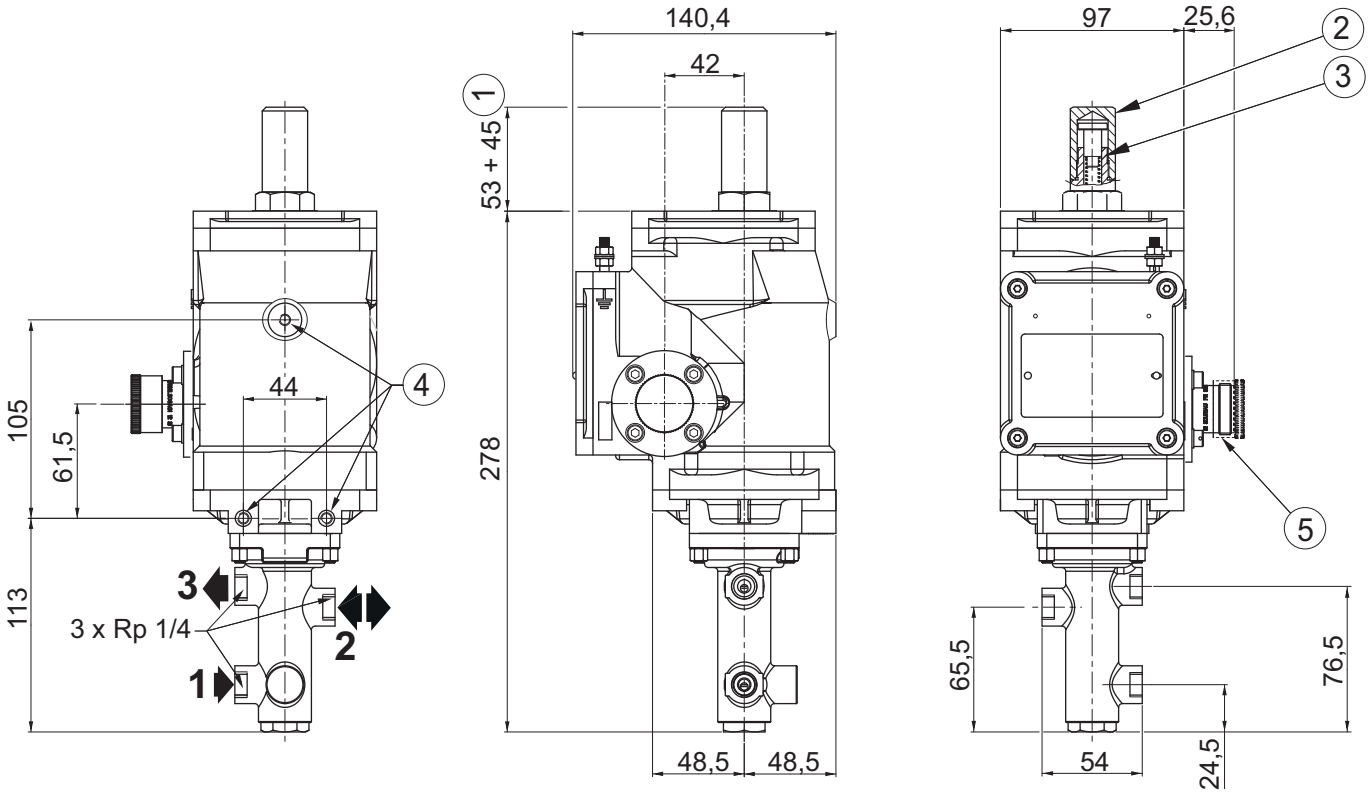
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m³/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**X131439743001H9**	V301 O 5 48/DC- K1
							X131439743002J1	V301 O 5 125/DC- K1

INSTALLATION

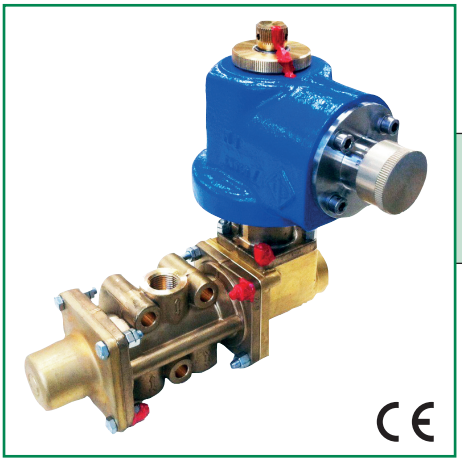
- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



weight
7,9

(1) Dimension to be added to allow for removal
(2) Cover for manual operator
(3) Manual operator location
(4) 3 mounting holes M6, depth 9 mm
(5) QDC: Quick Disconnect Connector



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
  Accident 600 Kgy at 70°C
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *LOCA - Accident:* *LOCA RCC-E: 2 peaks at 5,6 bar, 156°C*
  Atmosphere chemical spray: 1,5% boric acid and 0,6% sodium hydroxide
  Post-accident: 100°C, 24 hours and HR = 100%
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP65	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

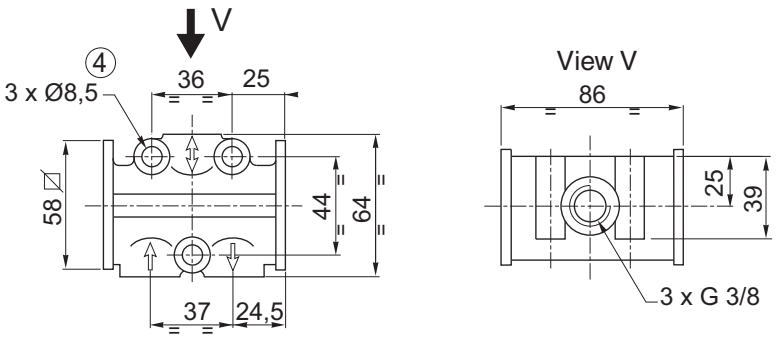
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference	orientation type
G	(mm)	(m³/h)	(l/min)	(m³/h)	(l/min)	(ms)	min.	max.			
3/8	9	80,6	1345	76	1270	500	3	10	**23100494.48/DC**	MT302 D(1) - K1	01
									23100494.125/DC		
									X231518115001H9 48/DC		02
									X231518115002J1 125/DC		

(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position.
- Pipe connection (G) is standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



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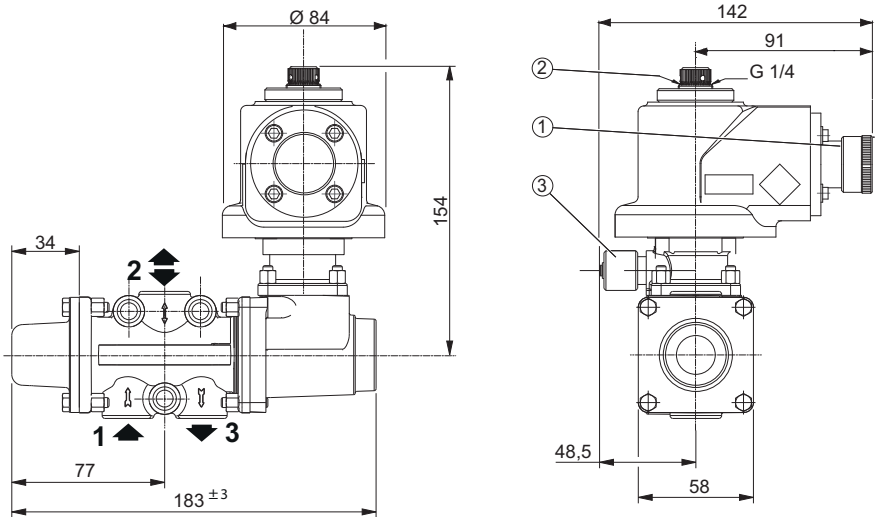

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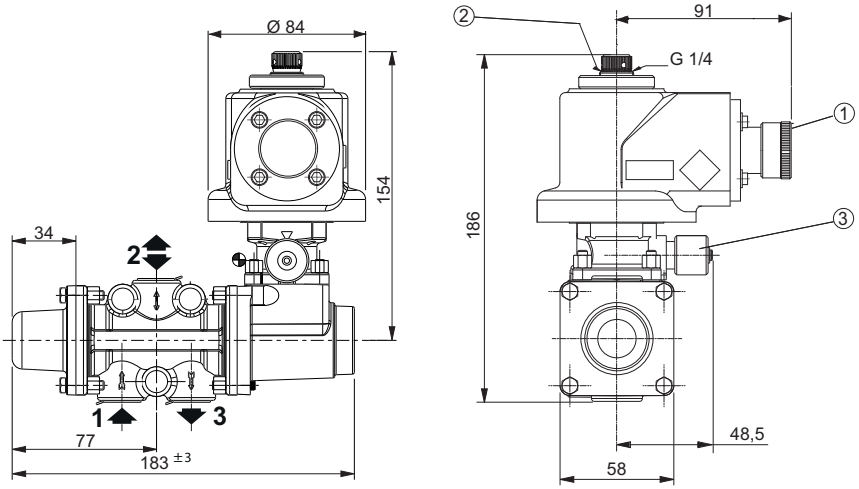


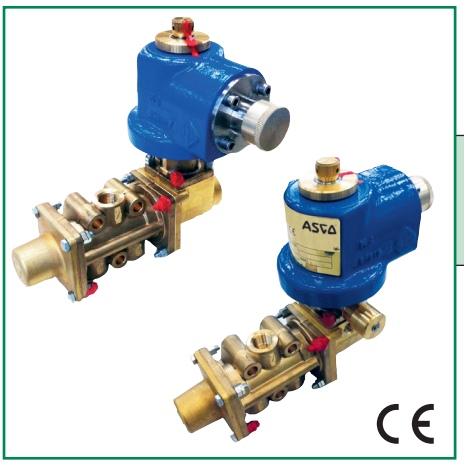
weight
5

1. QDC: Quick Disconnect Connector
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

MT302 S 2I1O G3/8"

K1 RCC-E



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
  Accident 600 Kgy at 70°C
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *LOCA - Accident:* *LOCA RCC-E: 2 peaks at 5,6 bar, 156°C*
  Atmosphere chemical spray: 1,5% boric acid and 0,6% sodium hydroxide
  Post-accident: 100°C, 24 hours and HR = 100%
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP65	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

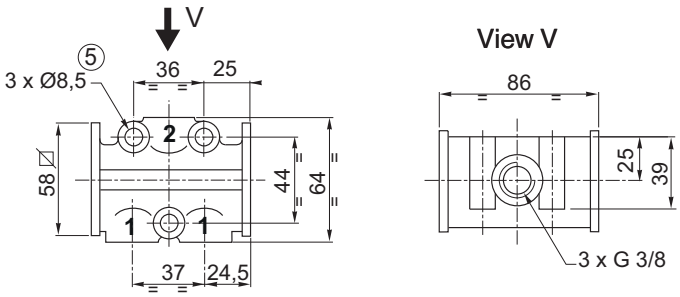
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		response time (max.)	operating pressure differential (bar)		catalogue number	reference	orientation type
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.			
3/8	9	76	1270	500	3	10	**23102043.48/DC**	MT302 S 2I1O(1) - K1	01
							23102043.125/DC		
							23102121.48/DC		02
							23102121.125/DC		

(1) S = external supply / 2I1O = 2 inlets 1 outlet

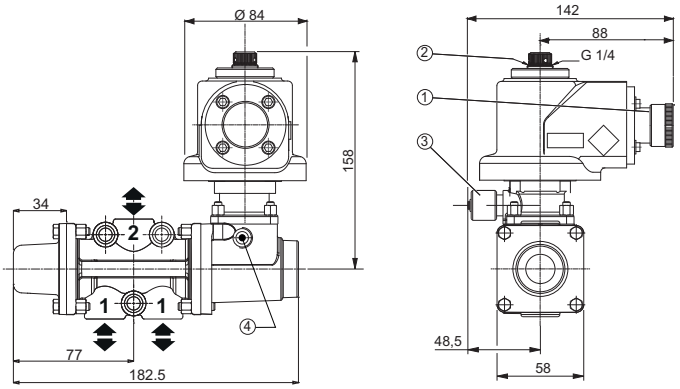
INSTALLATION

- The valve must be installed with the spool in horizontal position.
- Pipe connection (G) is standard thread according to ISO 228/1

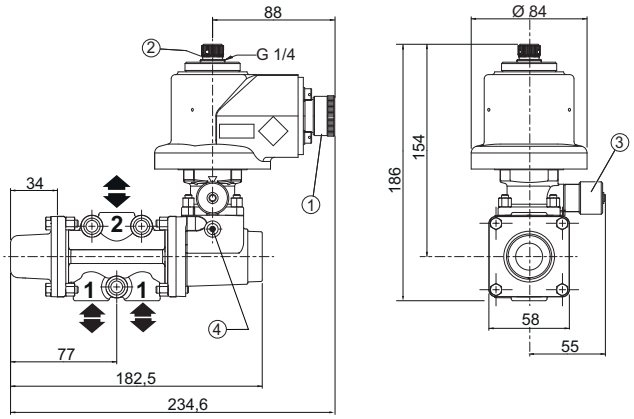
DIMENSIONS (mm), WEIGHT (kg)



TYPE 01



TYPE 02



type	weight
01 / 02	5

1. QDC: Quick Disconnect Connector
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 8,5 mm dia.

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
  Accident 600 Kgy at 70°C
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *LOCA - Accident:* *LOCA RCC-E: 2 peaks at 5,6 bar, 156°C*
  Atmosphere chemical spray: 1,5% boric acid and 0,6% sodium hydroxide
  Post-accident: 100°C, 24 hours and HR = 100%
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP65	+5 to +50
125 VDC	14	16			

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SPECIFICATIONS

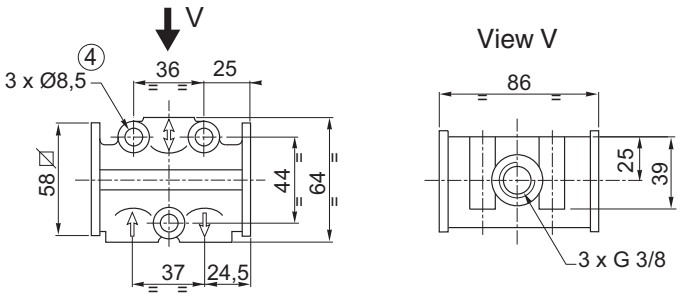
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference	orientation type
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.			
3/8	9	80,6	1345	76	1270	500	3	10	**23102061.48/DC**	MT302 S (1) - K1	01
									23102061.125/DC		
									23102103.48/DC		02
									23102103.125/DC		

(1) External supply

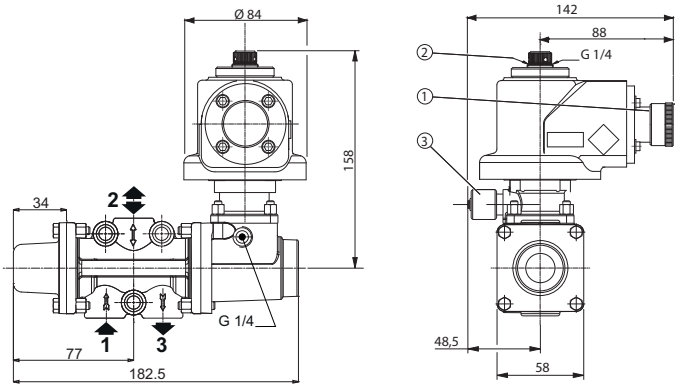
INSTALLATION

- The valve must be installed with the spool in horizontal position.
- Pipe connection (G) is standard thread according to ISO 228/1

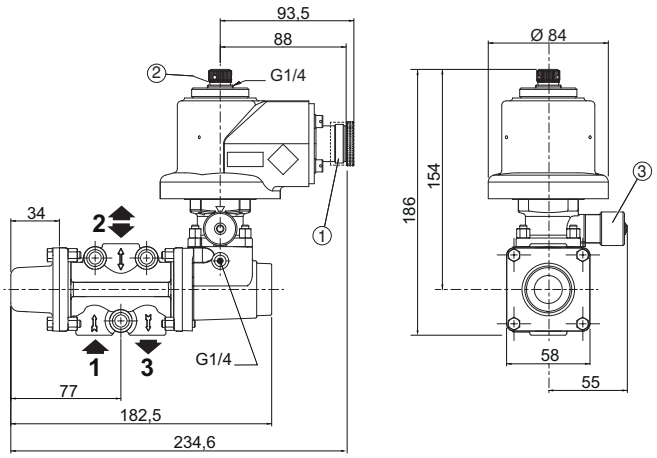
DIMENSIONS (mm), WEIGHT (kg)



TYPE 01

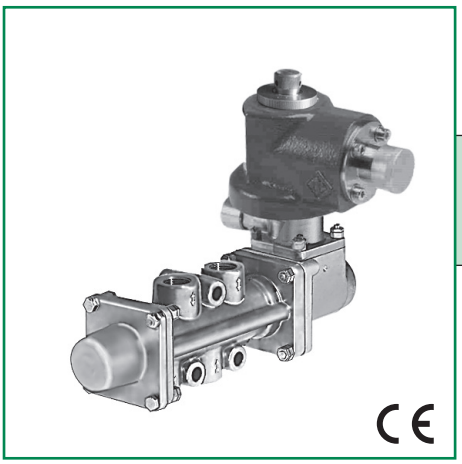


TYPE 02



type	weight
01 / 02	5

1. QDC: Quick Disconnect Connector
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT402 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
  Accident 600 Kgy at 70°C
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *LOCA - Accident:* *LOCA RCC-E: 2 peaks at 5,6 bar, 156°C*
  Atmosphere chemical spray: 1,5% boric acid and 0,6% sodium hydroxide
  Post-accident: 100°C, 24 hours and HR = 100%
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP65	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

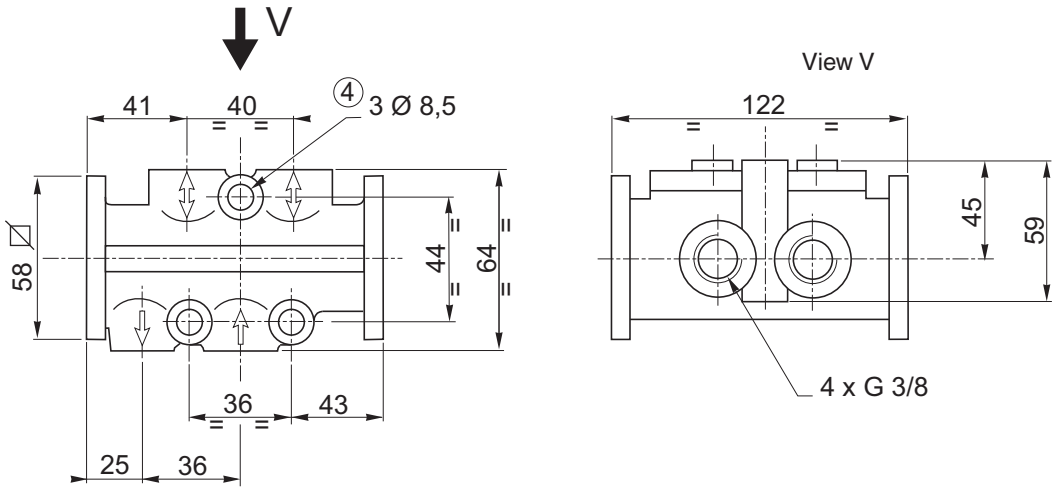
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h) 1→2 1→4	(m³/h) 1→2	(m³/h) 2→3	(l/min) 1→2 1→4	(l/min) 1→2	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
3/8	9	84,4	61,6	80,7	1400	1030	1345	500	3	10	**23200485.48/DC**	MT402 D(1) - K1
											23200485.125/DC	

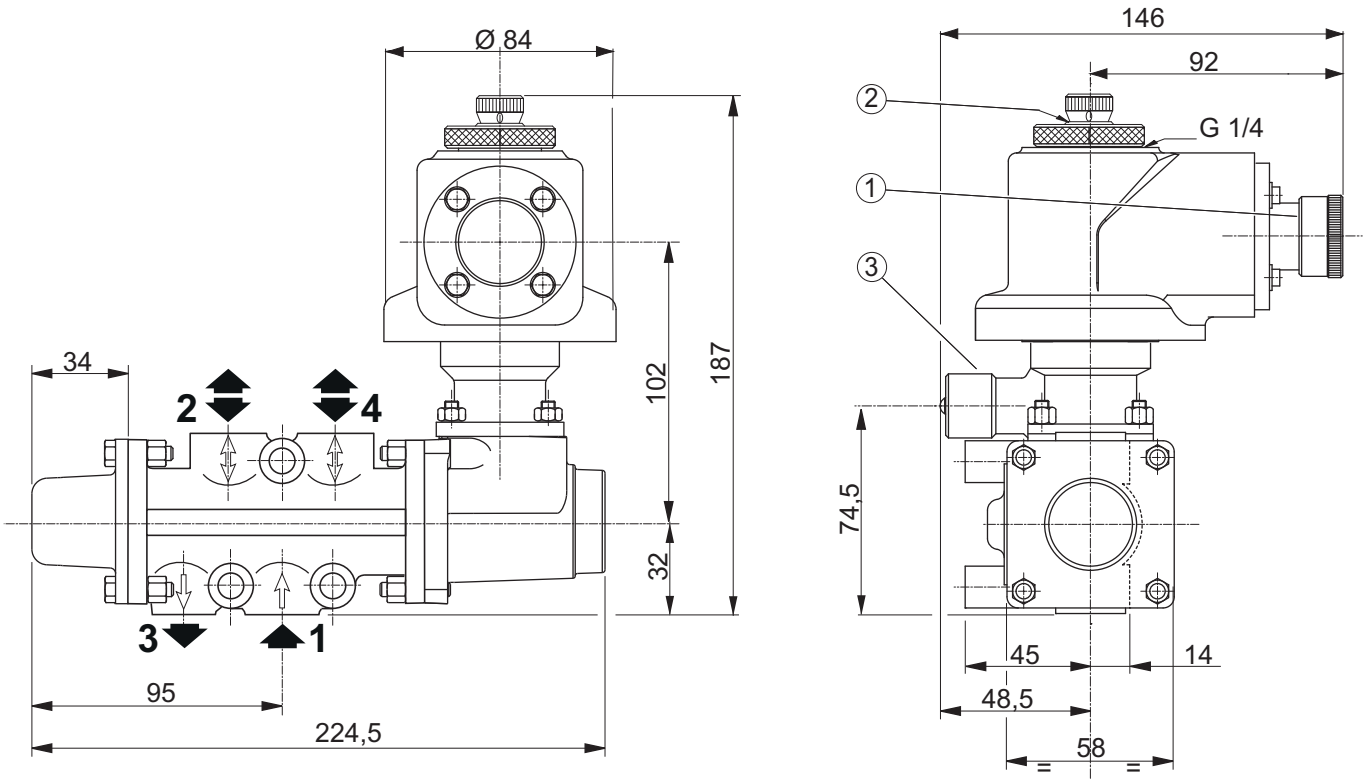
(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position.
- Pipe connection (G) is standard thread according to ISO 228/1

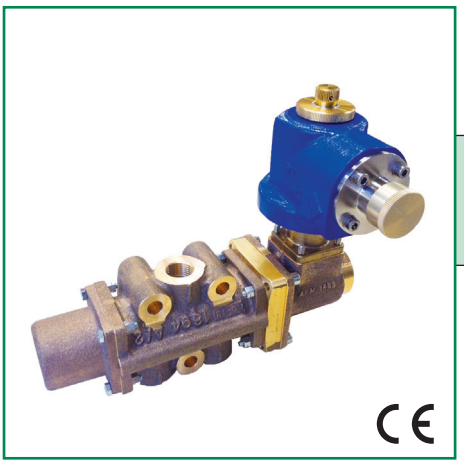
DIMENSIONS (mm), WEIGHT (kg)





weight
5,5

1. QDC: Quick Disconnect Connector
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT303 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
  Accident 600 Kgy at 70°C
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *LOCA - Accident:* *LOCA RCC-E: 2 peaks at 5,6 bar, 156°C*
  Atmosphere chemical spray: 1,5% boric acid and 0,6% sodium hydroxide
  Post-accident: 100°C, 24 hours and HR = 100%
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP65	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

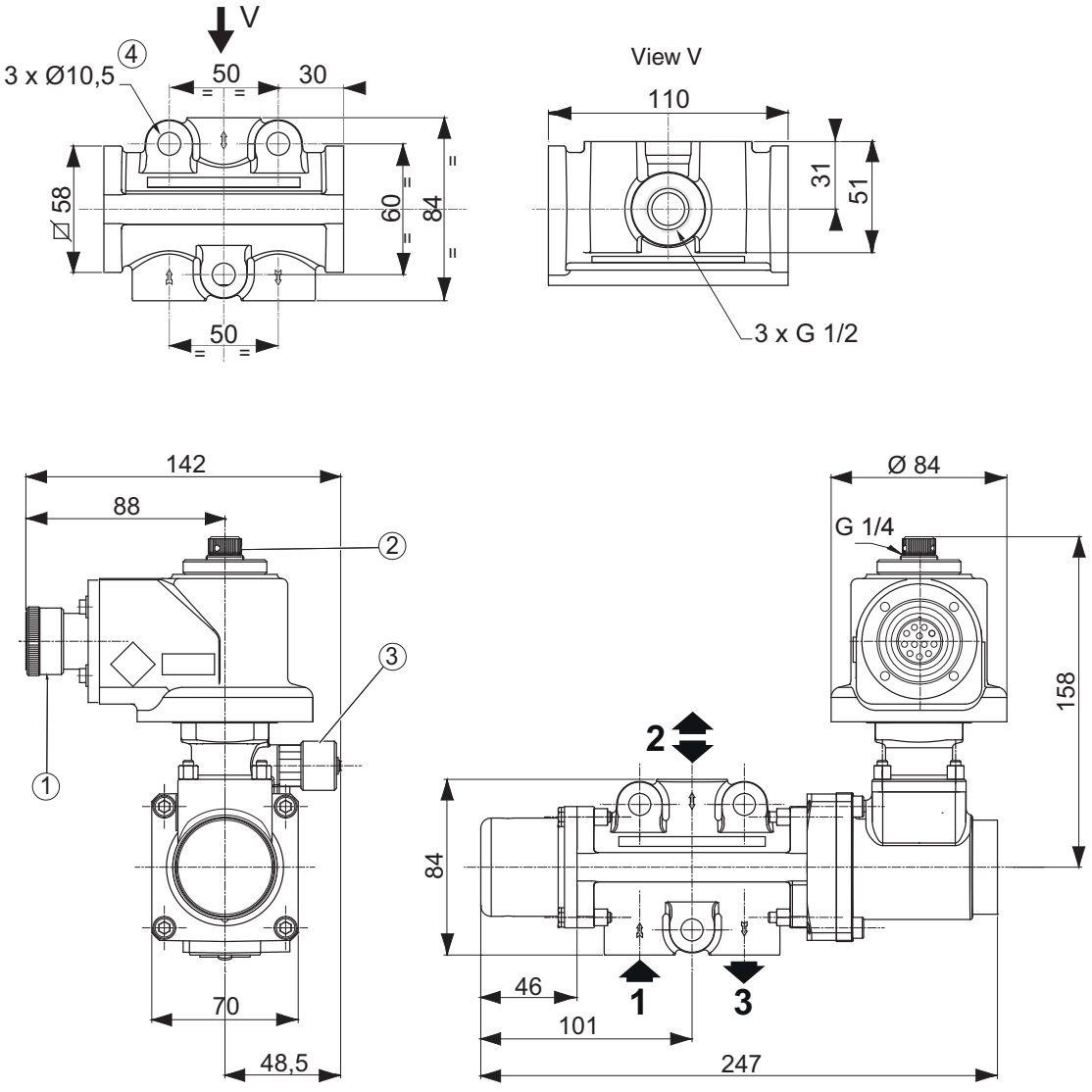
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/2	15	261	4360	172,7	2880	500	3	10	**23100495.48/DC** **23100495.125/DC**	MT303 D(1) - K1

(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position.
- Pipe connection (G) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



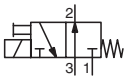
weight
6,3

1. QDC: Quick Disconnect Connector
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 10,5 mm dia.

SOLENOID VALVES

MB 301 F 3 G1/4"

K2 RCC-E

NO 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

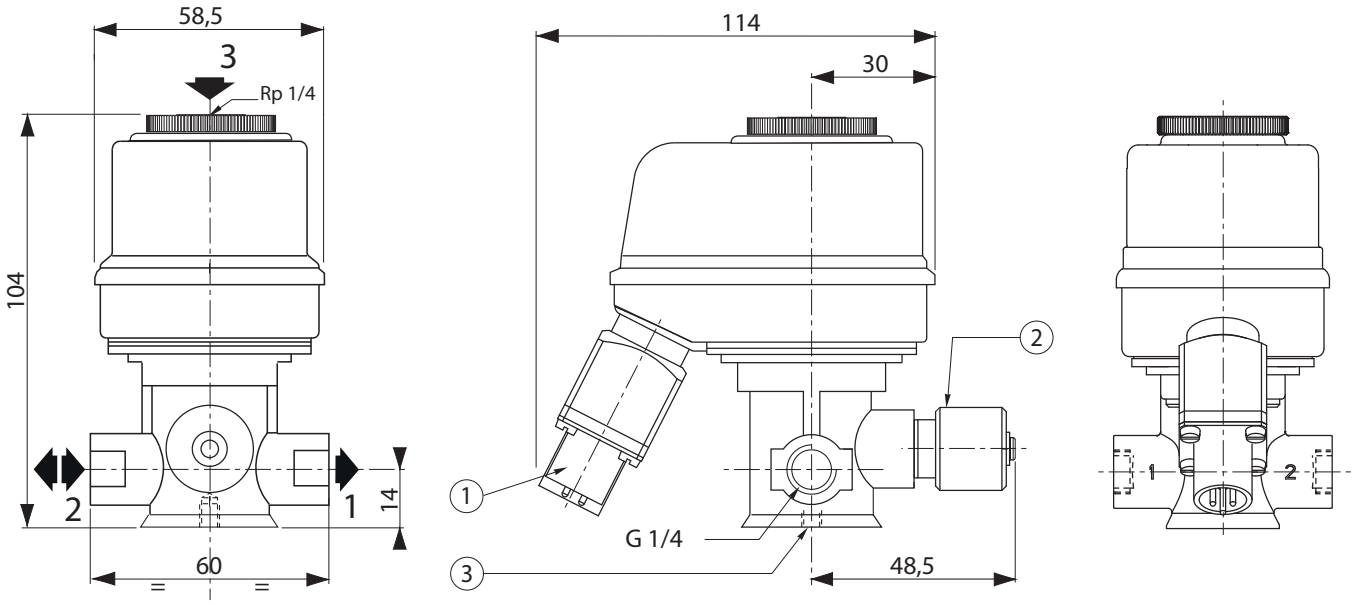
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	8	**12102037.48/DC** **12102037.125/DC**	MB301 F 3 - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



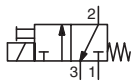
weight
1,0

(1) QDC: Quick Disconnect Connector, 8N45
(2) Manual operator location
(3) Mounting hole M5, depth 7 mm

SOLENOID VALVES

MB 301 O 3 G1/4"

K2 RCC-E

NC 

3/2 Series 121

K2

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
  Accident 600 Kgy at 70°C
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

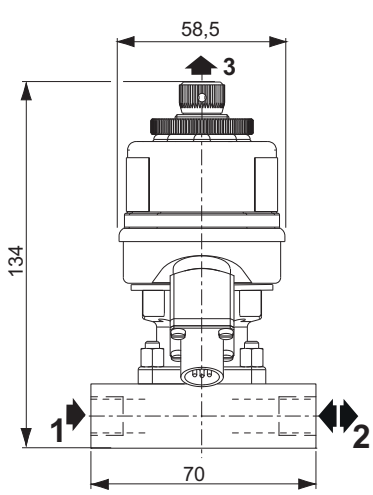
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G* (1)	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	12102036.48/DC 12102036.125/DC	MB301 O 3 - K2

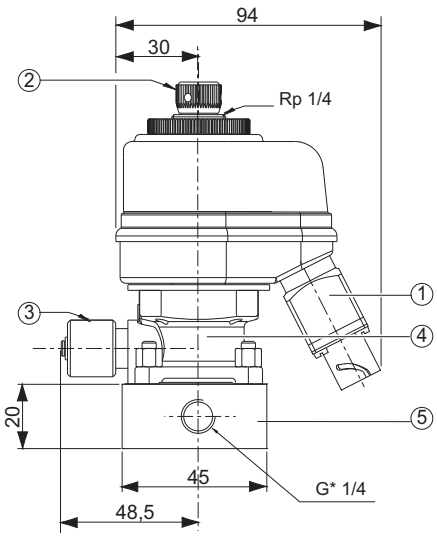
(1) Port 3: G 1/4

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)





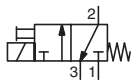
weight
1,75

1. QDC: Quick Disconnect Connector, 8N45
2. 3/2 NC: exhaust protector
3. Manual operator location

SOLENOID VALVES

MB301 O 3 G1/4"

K2 RCC-E

NC 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

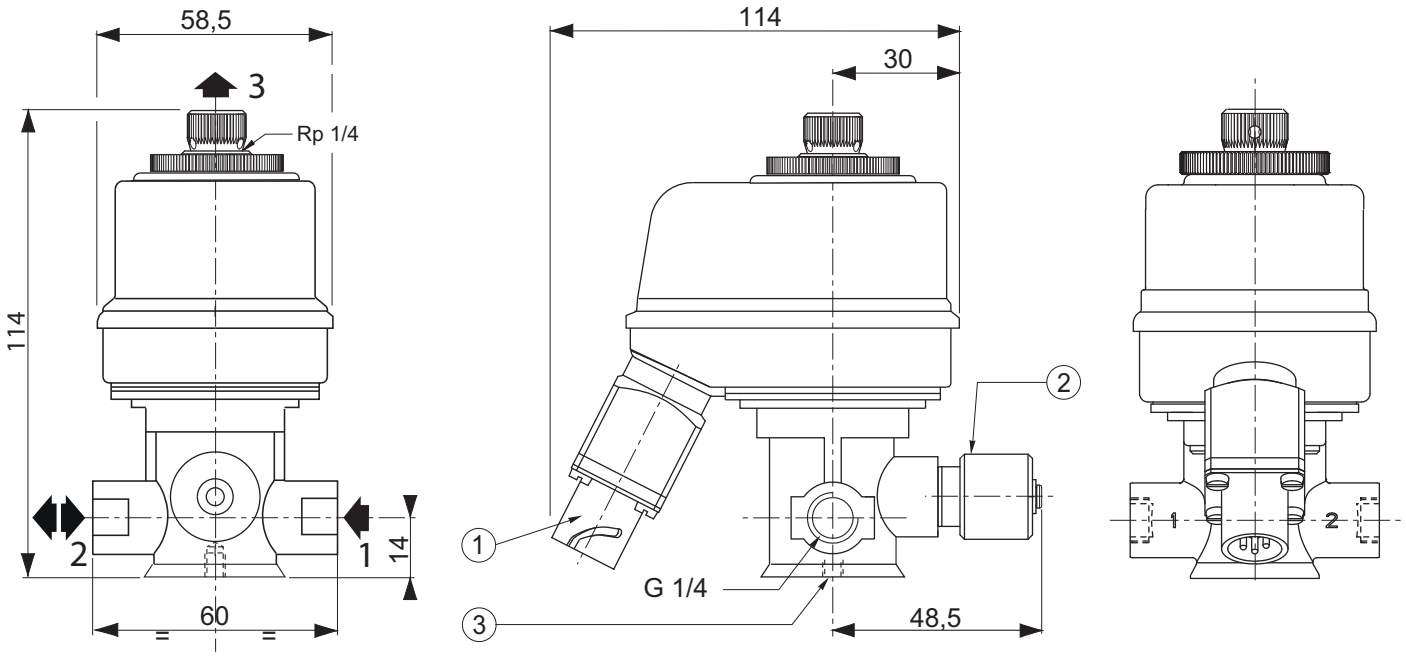
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12102034.48/DC** **12102034.125/DC**	MB301 O 3 - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



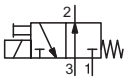
weight
1

(1) QDC: Quick Disconnect Connector, 8N45
(2) Manual operator location
(3) Mounting hole M5, depth 7 mm

SOLENOID VALVES

V301 F 5 Rp1/4"

K2 RCC-E

NO 

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50
125 VDC	39	44			

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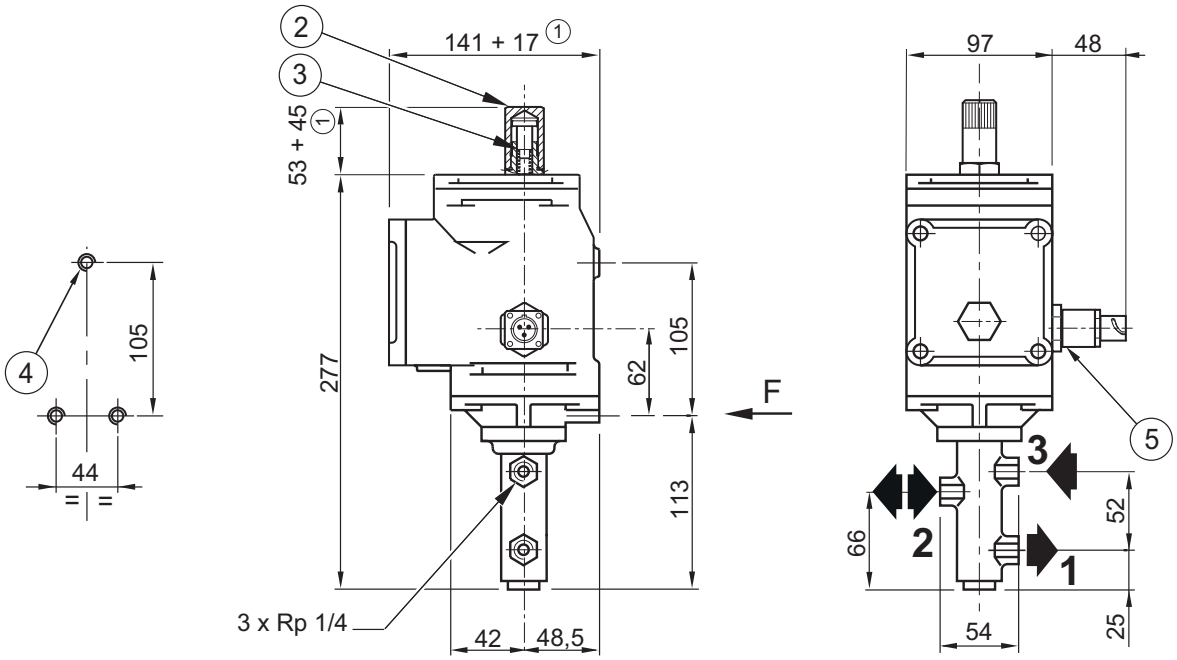
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m³/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**X131439742001H9**	V301 F 5 48/DC- K2
							X131439742002J1	V301 F 5 125/DC- K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1
- Replacement coils available

DIMENSIONS (mm), WEIGHT (kg)



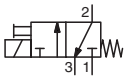
weight
7,9

① Dimension to be added to allow for removalr
② Cover for manual operator
③ Manual operator location
④ 3 mounting holes M6, depth 9 mm
⑤ QDC: Quick Disconnect Connector, 8N45

SOLENOID VALVES

V301 O 5 Rp1/4"

K2 RCC-E

NC 

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50
125 VDC	39	44			

VAMAC® is a registered trademark of Dupont Performance Elastomers

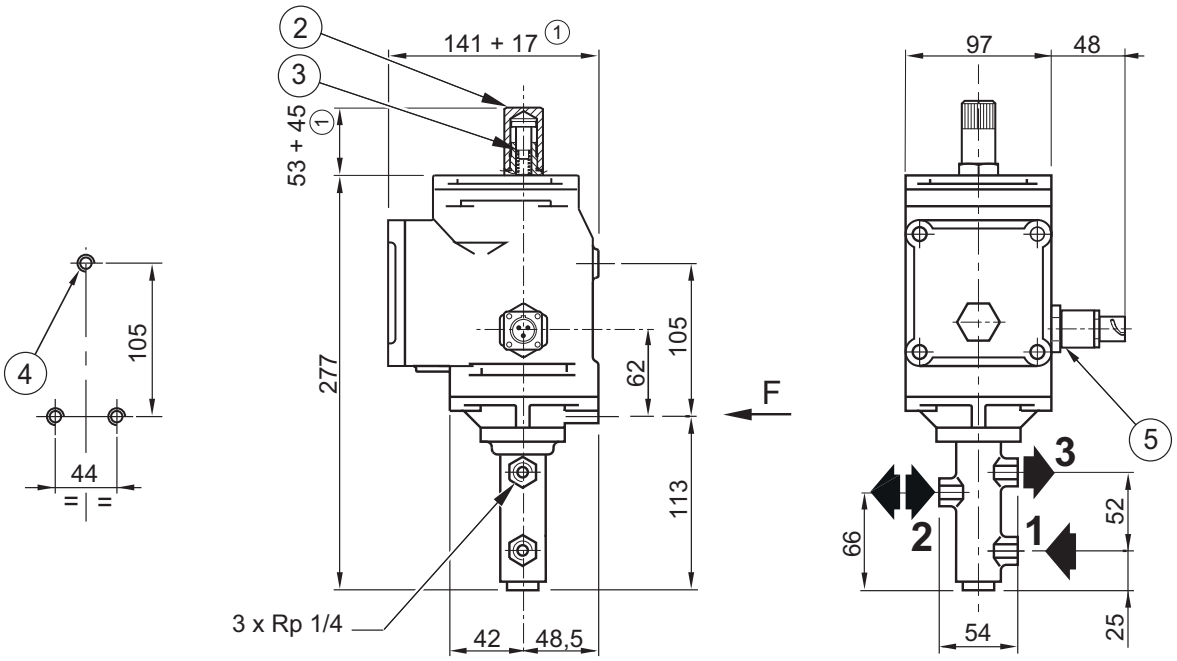
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m³/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**X131439753001H9**	V301 O 5 48/DC- K2
							X131439753002J1	V301 O 5 125/DC- K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



weight
7,9

① Dimension to be added to allow for removalr
② Cover for manual operator
③ Manual operator location
④ 3 mounting holes M6, depth 9 mm
⑤ QDC: Quick Disconnect Connector, 8N45

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
125 VDC	14	16	H	IP54	+5 to +50

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SPECIFICATIONS

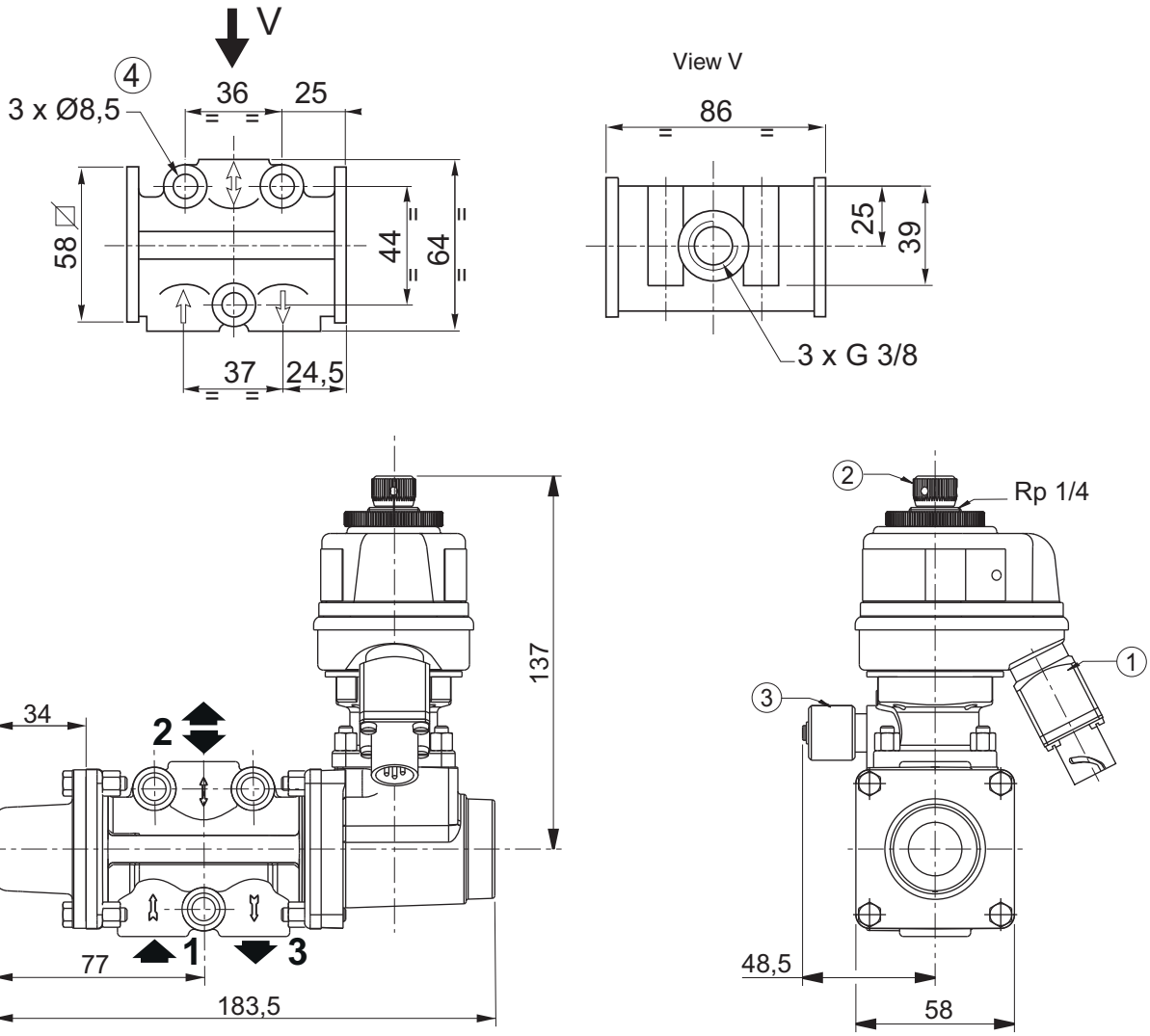
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
3/8	9	80,6	1345	76	1270	500	3	10	**23102029.125/DC**	MT302 D(1) - K2

(1) D = Direct supply.

INSTALLATION

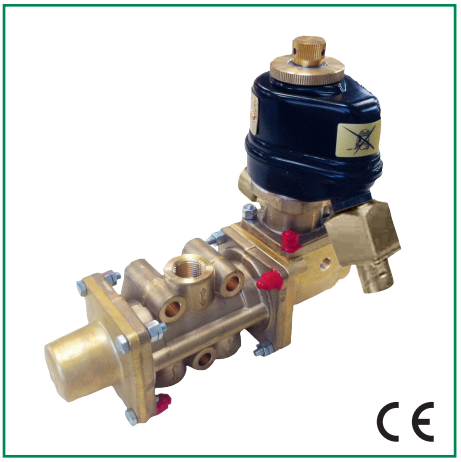
- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



weight
2,7

1. QDC: Quick Disconnect Connectorr, 8N45
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
125 VDC	14	16	H	IP54	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

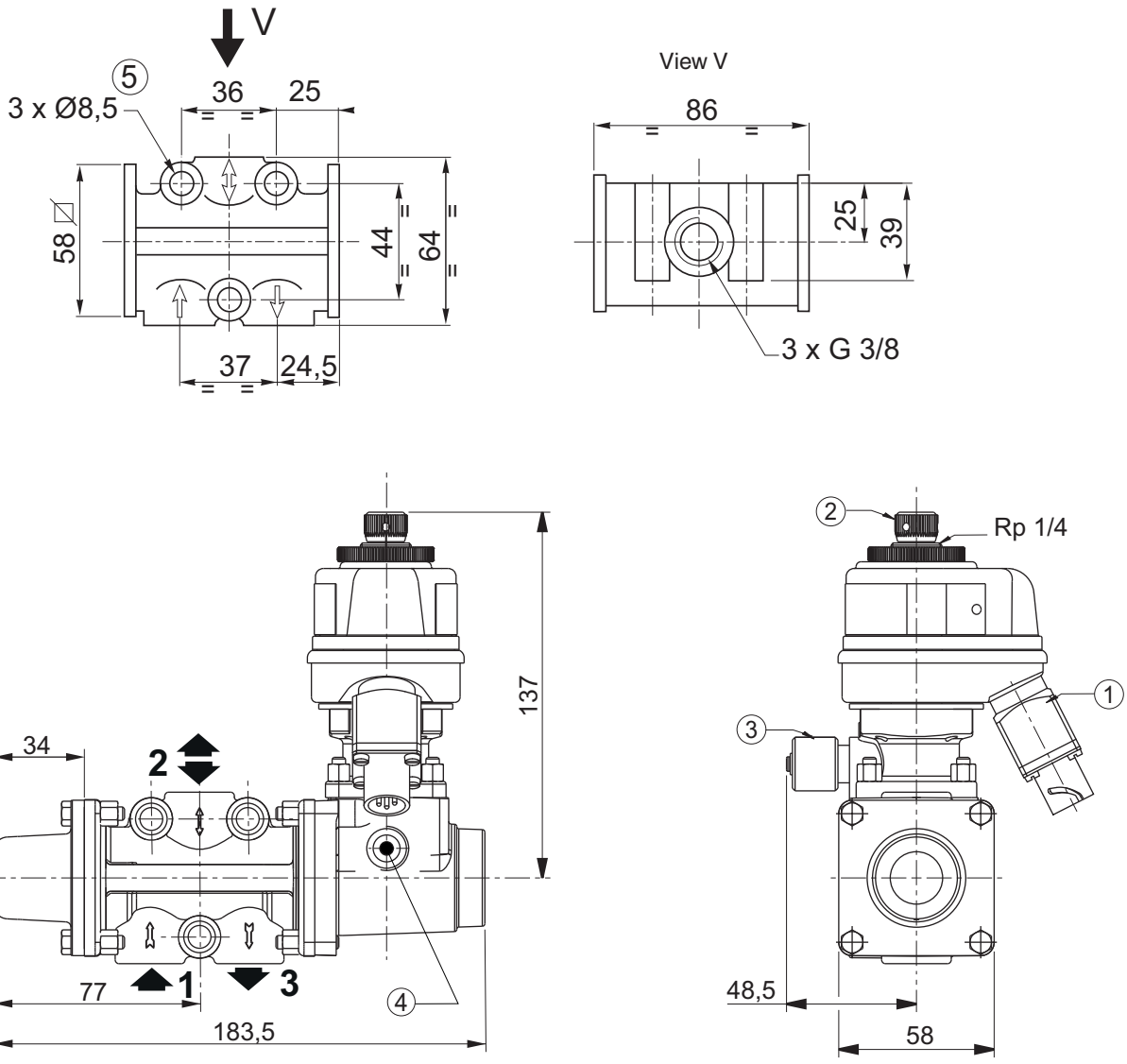
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
3/8	9	80,6	1345	76	1270	500	3	10	**23102037.125/DC**	MT302 S(1) - K2

(1) External supply

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



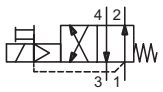
weight
2,7

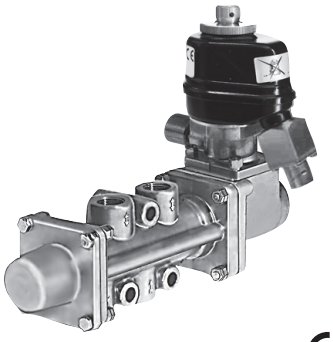
1. QDC: Quick Disconnect Connector, 8N45
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

MT402 D G3/8"

K2 RCC-E





QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT402 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
  Accident 600 Kgy at 70°C
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage	power ratings (W)		coil insulation class	type of protection	temperature range
(-20% +10%)	hot	cold			(C°)
125 VDC	14	16	H	IP54	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

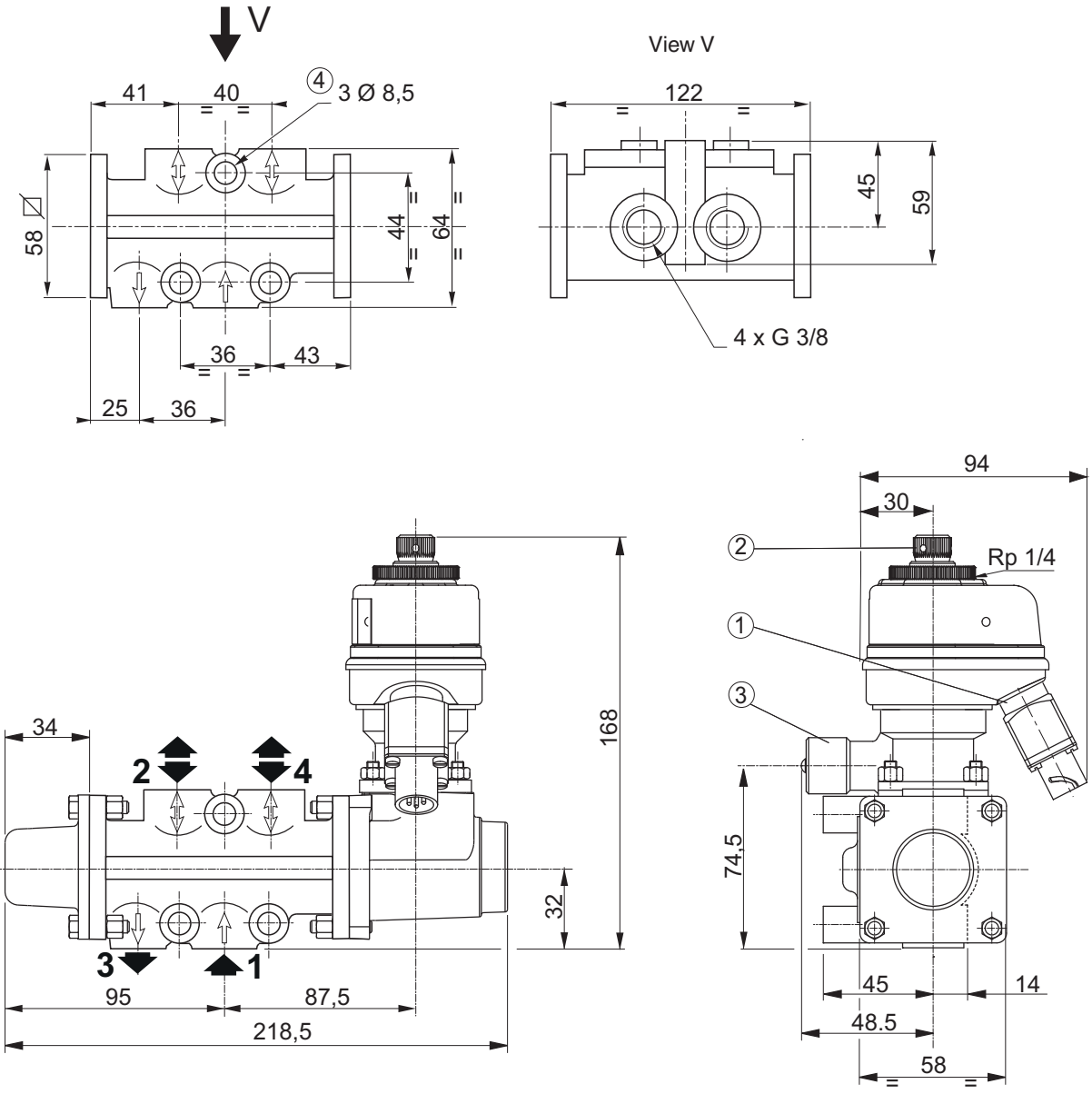
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h)			rated flow (ΔP 1 bar at 6,3 bar) (l/min)			response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	1→2 1→4	4→3	2→3	1→2 1→4	4→3	2→3	(ms)	min.	max.		
3/8	9	84,4	61,6	80,7	1400	1030	1345	500	3	10	**23202031.125/DC**	MT402 D(1) - K2

(1) D = Direct supply.

INSTALLATION

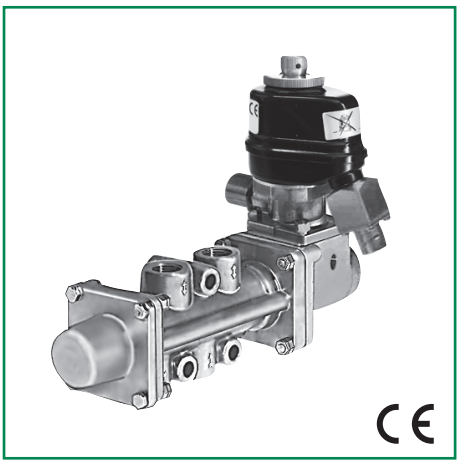
- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



weight
4

① QDC: Quick Disconnect Connector, 8N45
② 3/2 NC: exhaust protector
③ Manual operator location
④ 3 mounting holes 8,5 mm dia.



K2

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT402 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
125 VDC	14	16	H	IP54	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

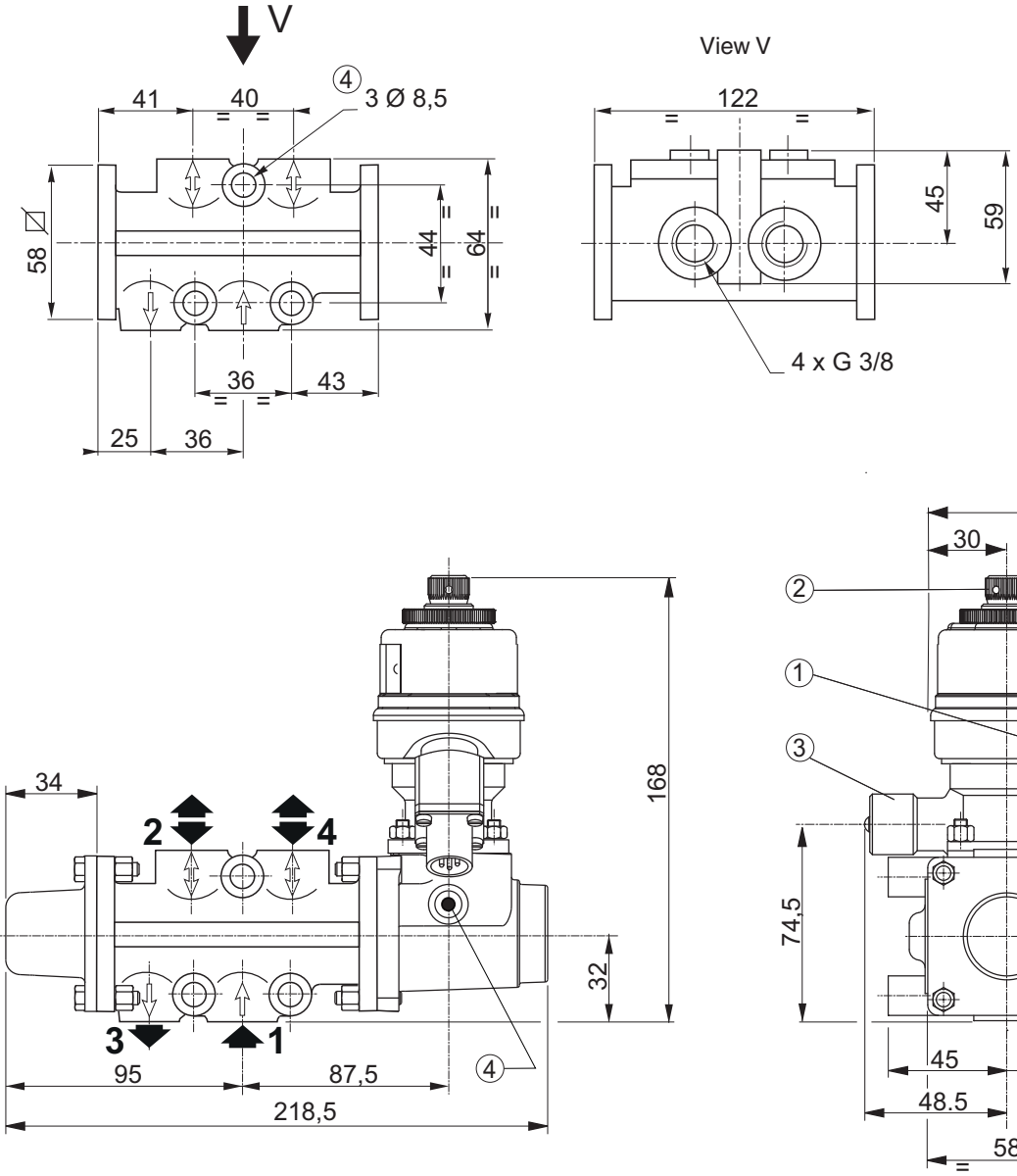
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h) 1→2 1→4	(m³/h) 4→3	(m³/h) 2→3	(l/min) 1→2 1→4	(l/min) 4→3	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
3/8	9	84,4	61,6	80,7	1400	1030	1345	500	3	10	**23202032.125/DC**	MT402 S(1) - K2

(1) External supply

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



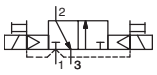
weight
4

1. QDC: Quick Disconnect Connector, 8N45
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 8,5 mm dia.

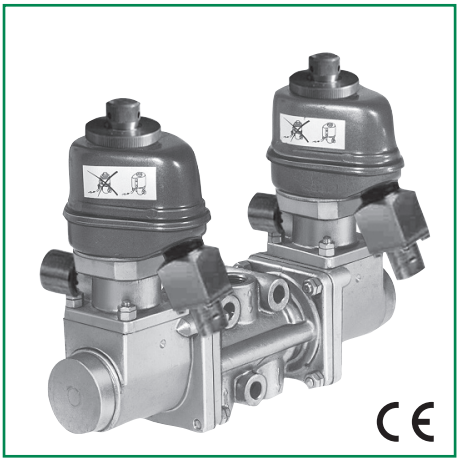
SOLENOID VALVES

M2T302 D G3/8"

K2 RCC-E

NC 

3/2
Series
231



K2

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *M2T302 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
125 VDC	14	16	H	IP54	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

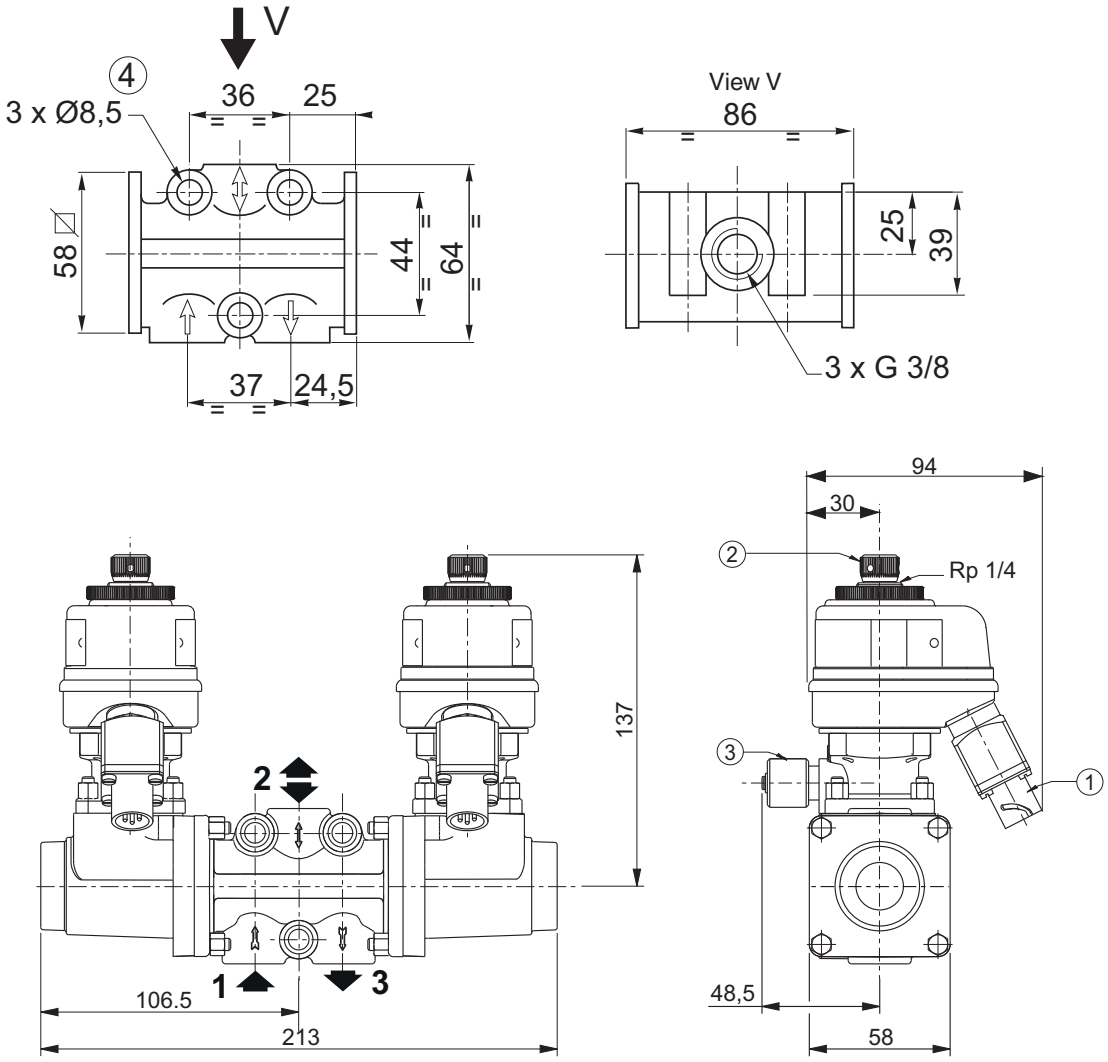
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
3/8	9	80,6	1345	76	1270	500	3	10	**23102034.125/DC**	M2T302 D(1) - K2

(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



weight
4,3

1. QDC: Quick Disconnect Connector, 8N45
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *M2T402 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

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SPECIFICATIONS

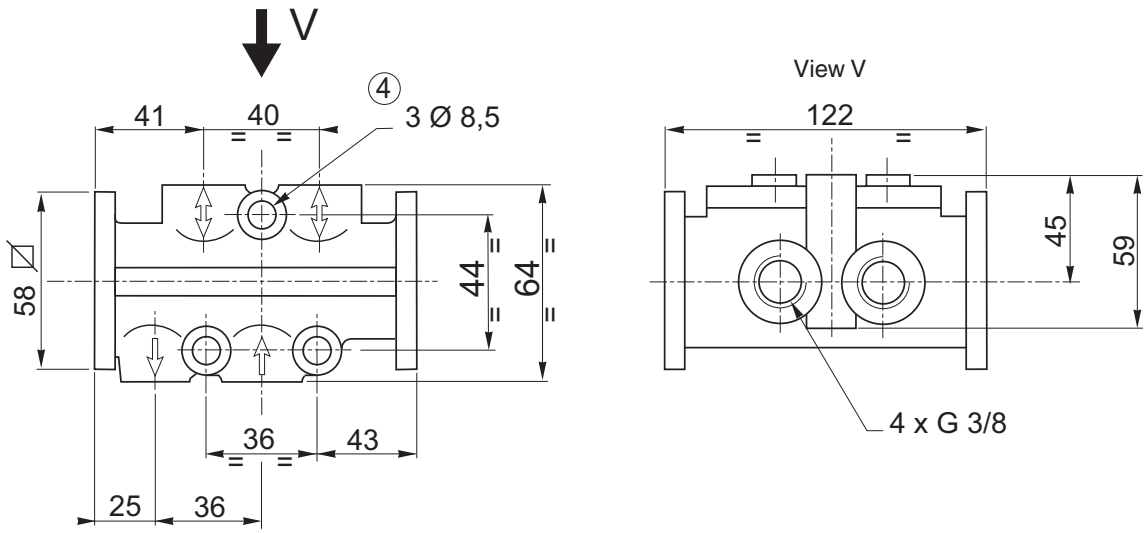
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h) 1→2 1→4	(m³/h) 4→3	(m³/h) 2→3	(l/min) 1→2 1→4	(l/min) 4→3	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
3/8	9	84,4	61,6	80,7	1400	1030	1345	500	3	10	**23202033.48/DC**	M2T402 D(1) - K2
											23202033.125/DC	

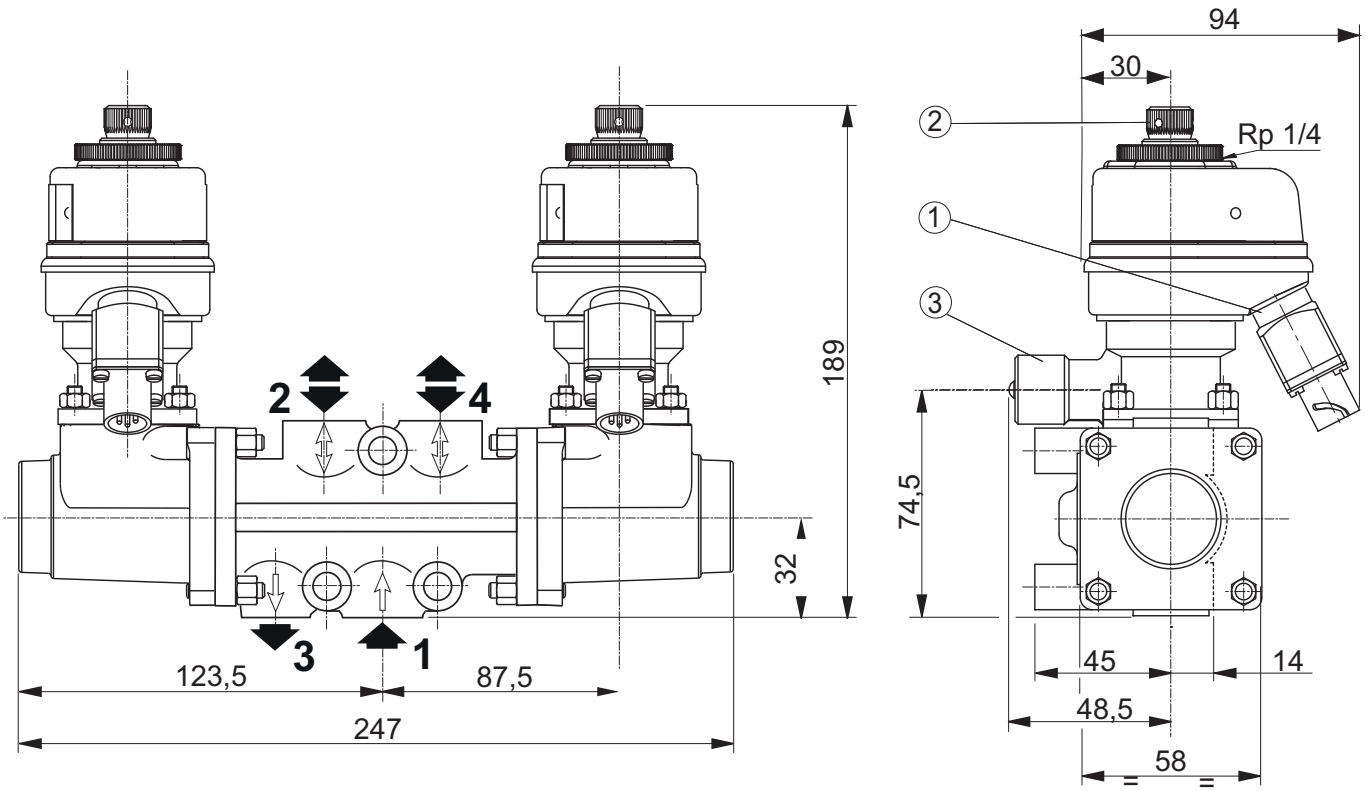
(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)





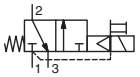
weight
5,5

1. QDC: Quick Disconnect Connector, 8N45
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

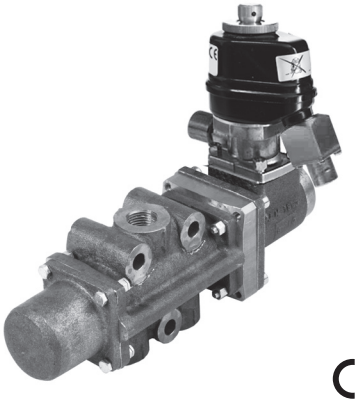
SOLENOID VALVES

MT303 D G1/2"

K2 RCC-E

NC 

3/2
Series
231



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT303 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

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SPECIFICATIONS

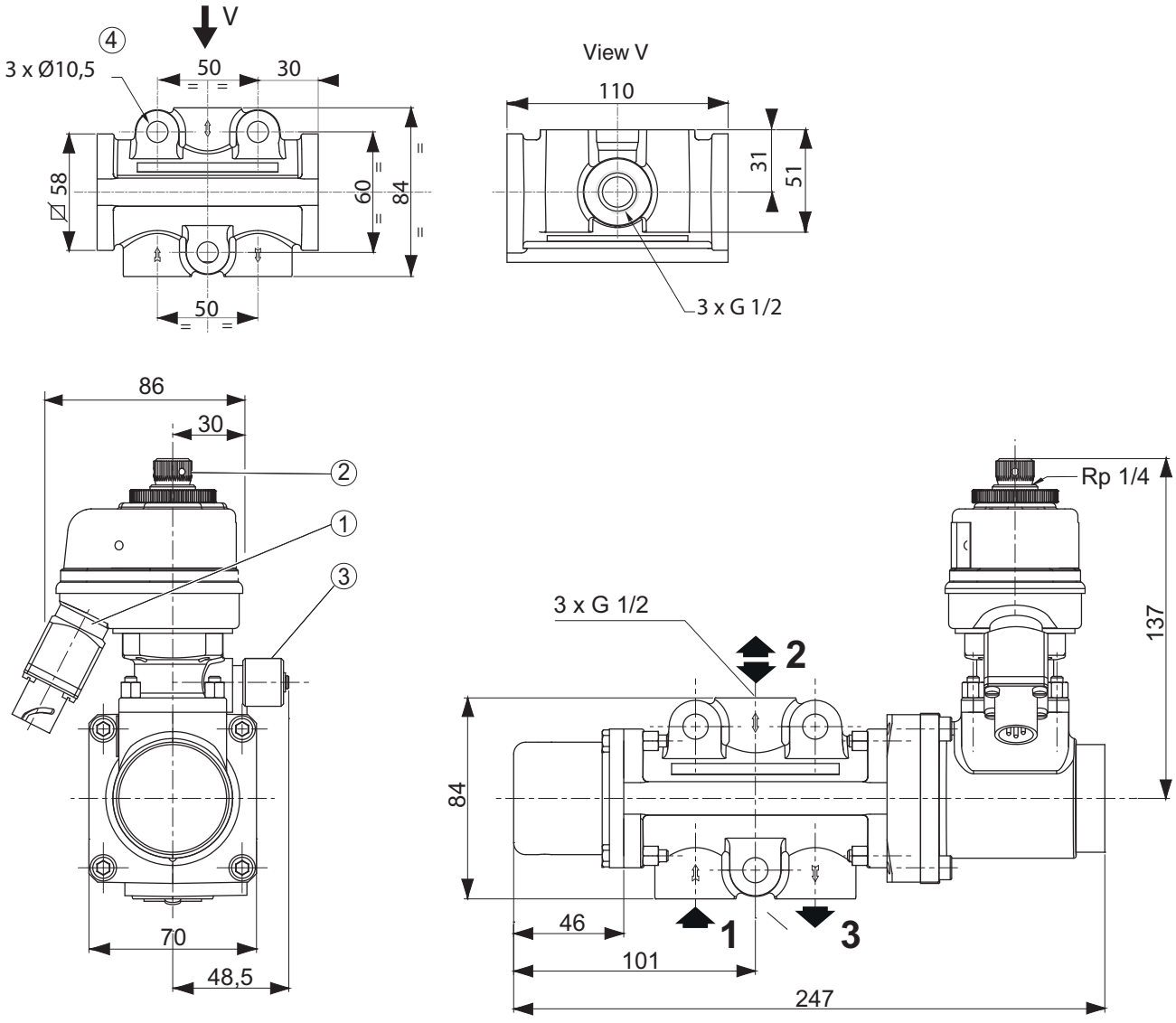
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m³/h)	(l/min)	(m³/h)	(l/min)	(ms)	min.	max.		
1/2	15	261	4360	172,7	2880	500	3	10	**23102030.48/DC** **23102030.125/DC**	MT303 D(1) - K2

(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



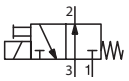
weight
4

1. QDC: Quick Disconnect Connector, 8N45
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 10,5 mm dia.

SOLENOID VALVES

MB 301 F 3 G1/4"

K2 RCC-E

NO 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5 to Ø11 mm))

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

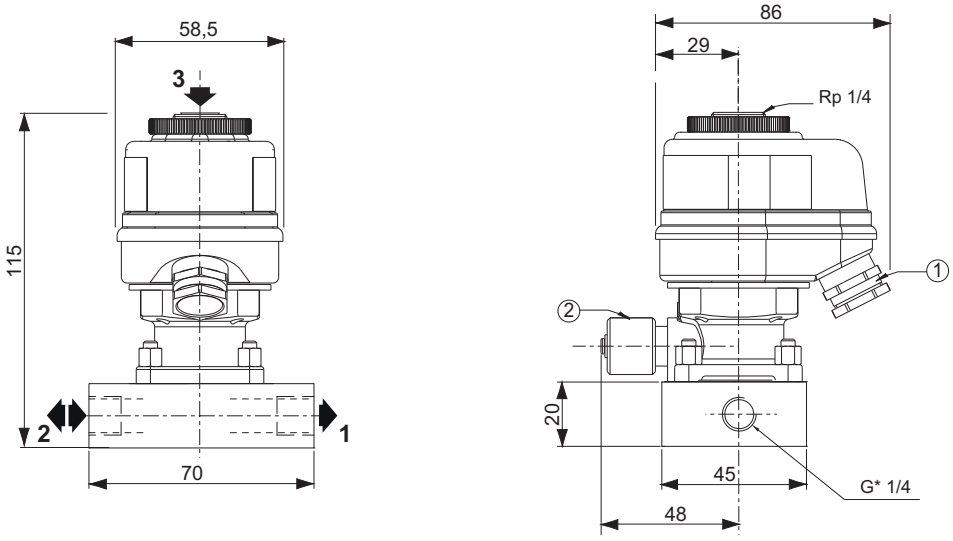
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G*	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	8	**12102046.48/DC** **12102046.125/DC**	MB301 F 3 - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



weight
1,75

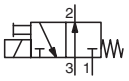
(1) Cable entry, CM10 (Ø 6,5-11 mm)

(2) Manual operator location

SOLENOID VALVES

MB301 F 3 G1/4"

K2 RCC-E

NO 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5 to Ø11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

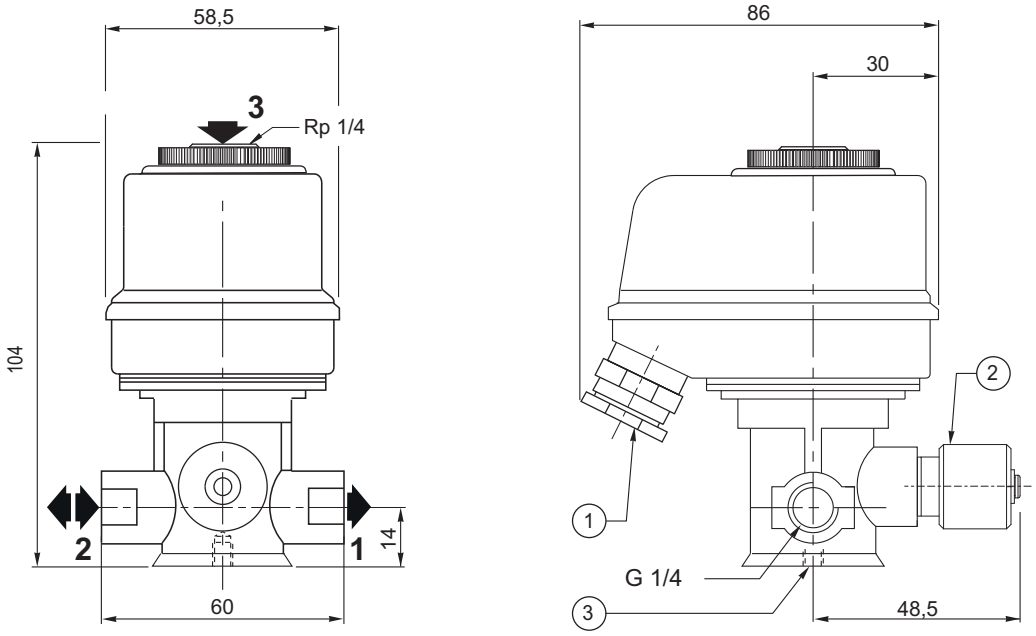
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	8	**12102031.48/DC** **12102031.125/DC**	MB301 F 3 - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



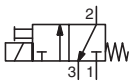
weight
1

(1) Cable entry, CM10 (Ø 6,5-11 mm)
(2) Manual operator location
(3) Mounting hole M5, depth 7 mm

SOLENOID VALVES

MB 301 O 3 G1/4"

K2 RCC-E

NC 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5 to Ø11 mm))

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

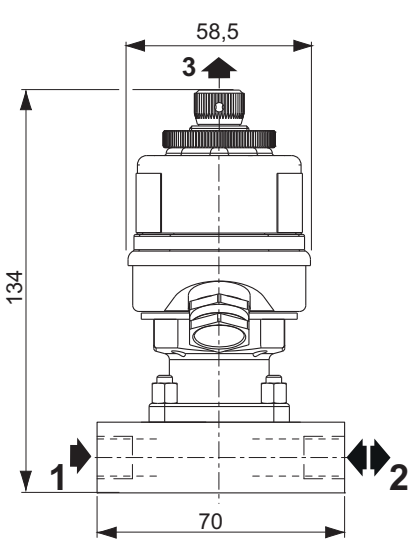
SPECIFICATIONS

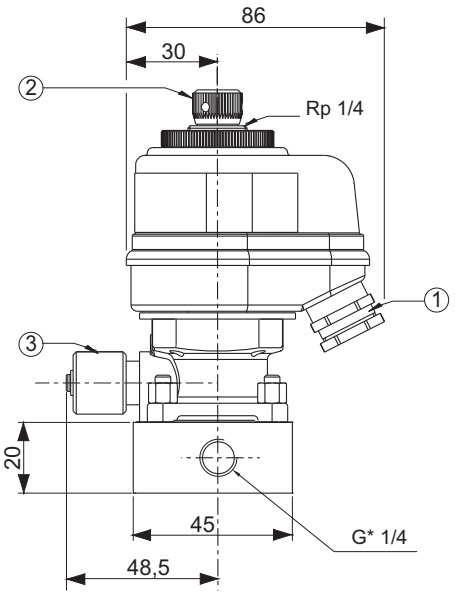
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G*	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12102030.48/DC** **12102030.125/DC**	MB301 O 3 - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)





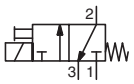
weight
1,75

(1) Cable entry, CM10 (Ø 6,5-11 mm)
(2) 3/2 NC: exhaust protector
(3) Manual operator location

SOLENOID VALVES

MB301 O 3 G1/4"

K2 RCC-E

NC 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5 to Ø11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

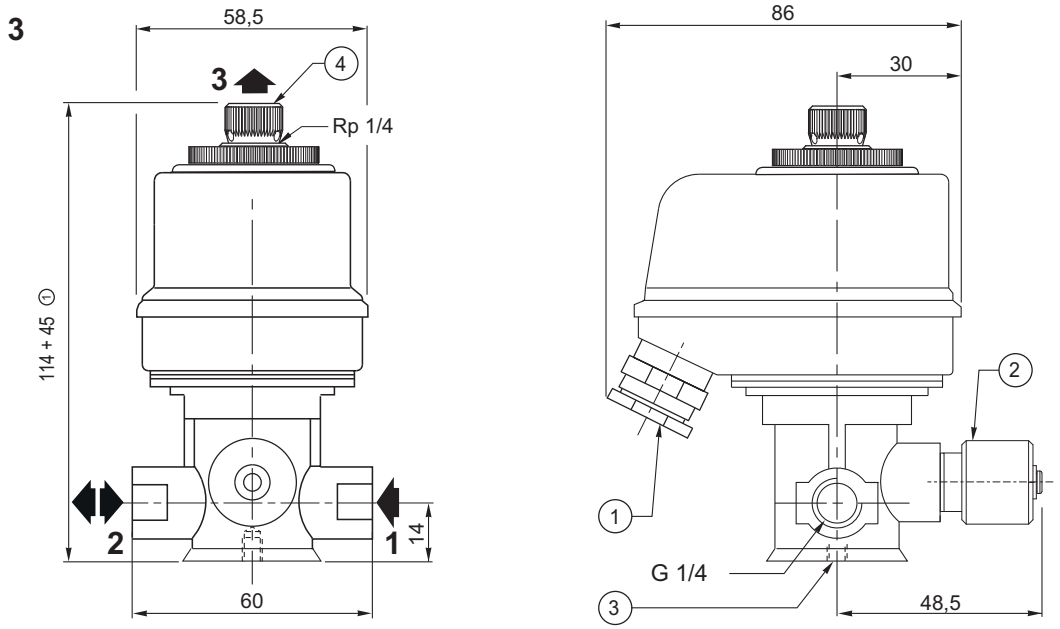
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12102003.48/DC** **12102003.125/DC**	MB301 O 3 - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



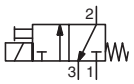
weight
1

① Cable entry, CM10 (Ø 6,5-11 mm)
② Manual operator location
③ Mounting hole M5, depth 7 mm
④ 3/2 NC: exhaust protector

SOLENOID VALVES

MB301 O 3 G1/4"

K2 RCC-E

NC 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

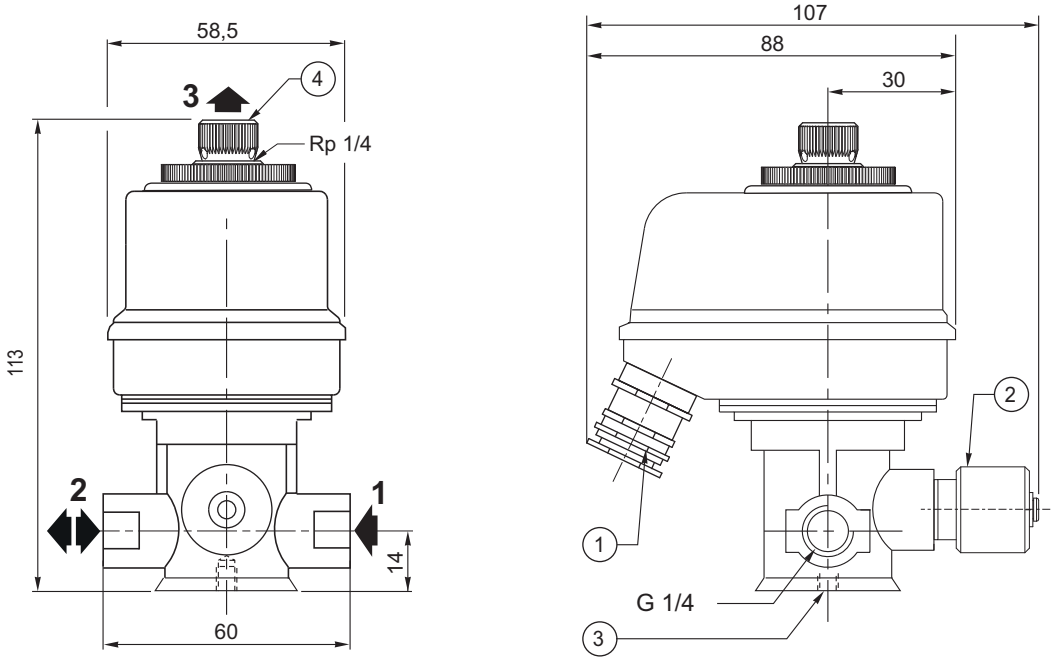
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G* (1)	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**X121519572001H9**	MB301 O 3 - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



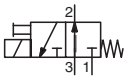
weight
1,6

1. Cable entry, CM12 (cable Ø 8,5-13 mm)
2. Manual operator location
3. Mounting hole M5, depth 7 mm
4. 3/2 NC: exhaust protector

SOLENOID VALVES

V301 F 5 Rp1/4"

K2 RCC-E

NO 

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50
125 VDC	39	44			

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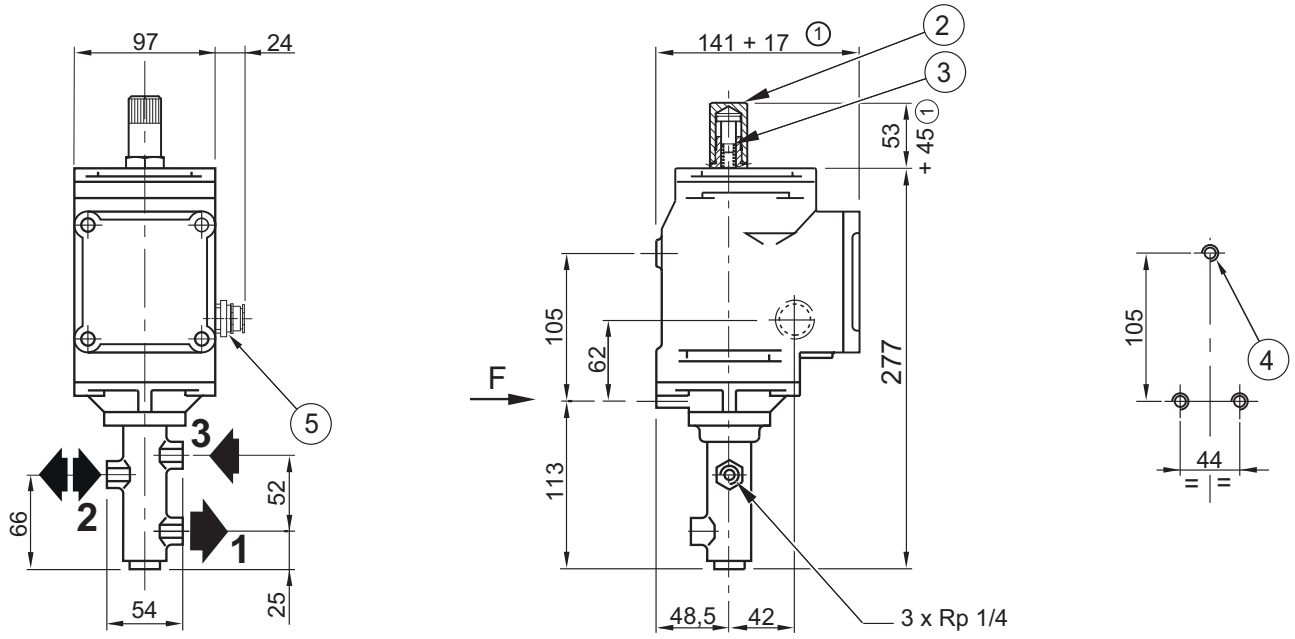
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**X131439741001H9**	V301 F 5 48/DC- K2
							X131439741002J1	V301 F 5 125/DC- K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



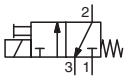
weight
7,9

① Dimension to be added to allow for removalr
② Cover for manual operator
③ Manual operator location
④ 3 mounting holes M6, depth 9 mm
⑤ Cable entry, CM10 (Ø 6,5-11 mm)

SOLENOID VALVES

V301 O 5 Rp1/4"

K2 RCC-E

NC 

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50
125 VDC	39	44			

VAMAC® is a registered trademark of Dupont Performance Elastomers

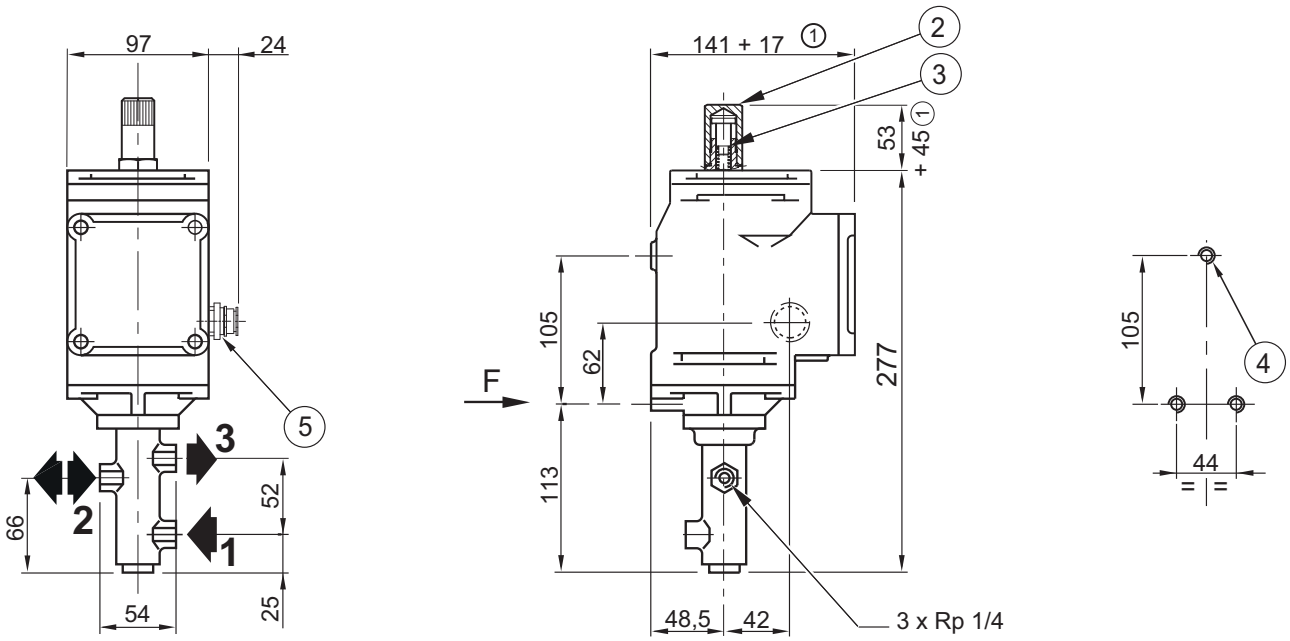
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m³/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**X131439744001H9**	V301 O 5 48/DC - K2
							X131439744002J1	V301 O 5 125/DC - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



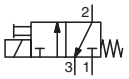
weight
7,9

① Dimension to be added to allow for removalr
② Cover for manual operator
③ Manual operator location
④ 3 mounting holes M6, depth 9 mm
⑤ Cable entry, CM10 (Ø 6,5-11 mm)

SOLENOID VALVES

V301 O 5 Rp1/4"

K2 RCC-E

NC 

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, , CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

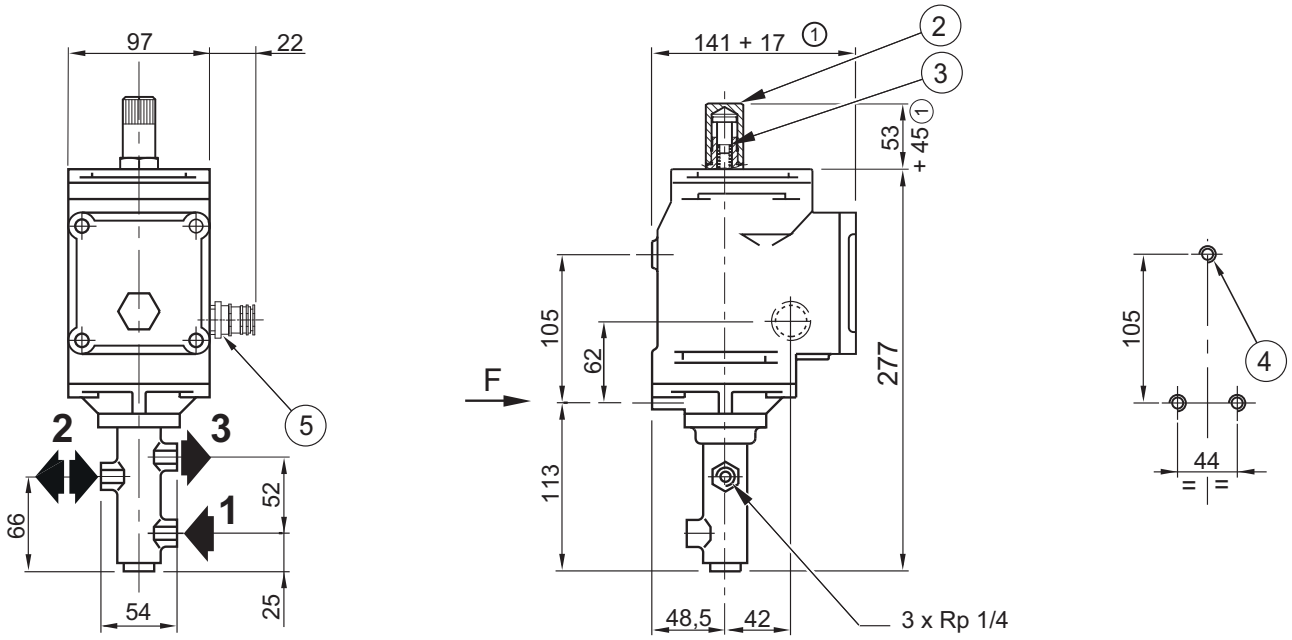
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m³/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**X131519571001H9**	V301 O 5 - K2

INSTALLATION

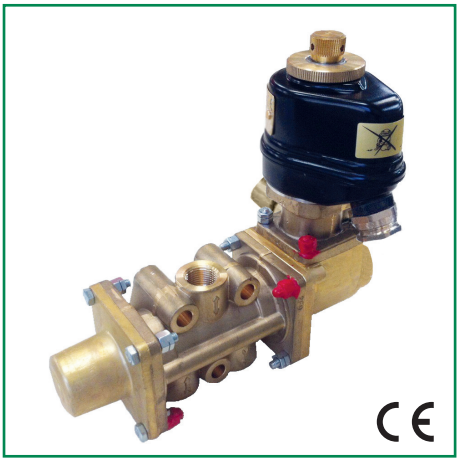
- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



weight
7

① Dimension to be added to allow for removalr
② Cover for manual operator
③ Manual operator location
④ 3 mounting holes M6, depth 9 mm
⑤ Cable entry, CM12 (cable Ø 8,5-13 mm)



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*

  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground

- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)

- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

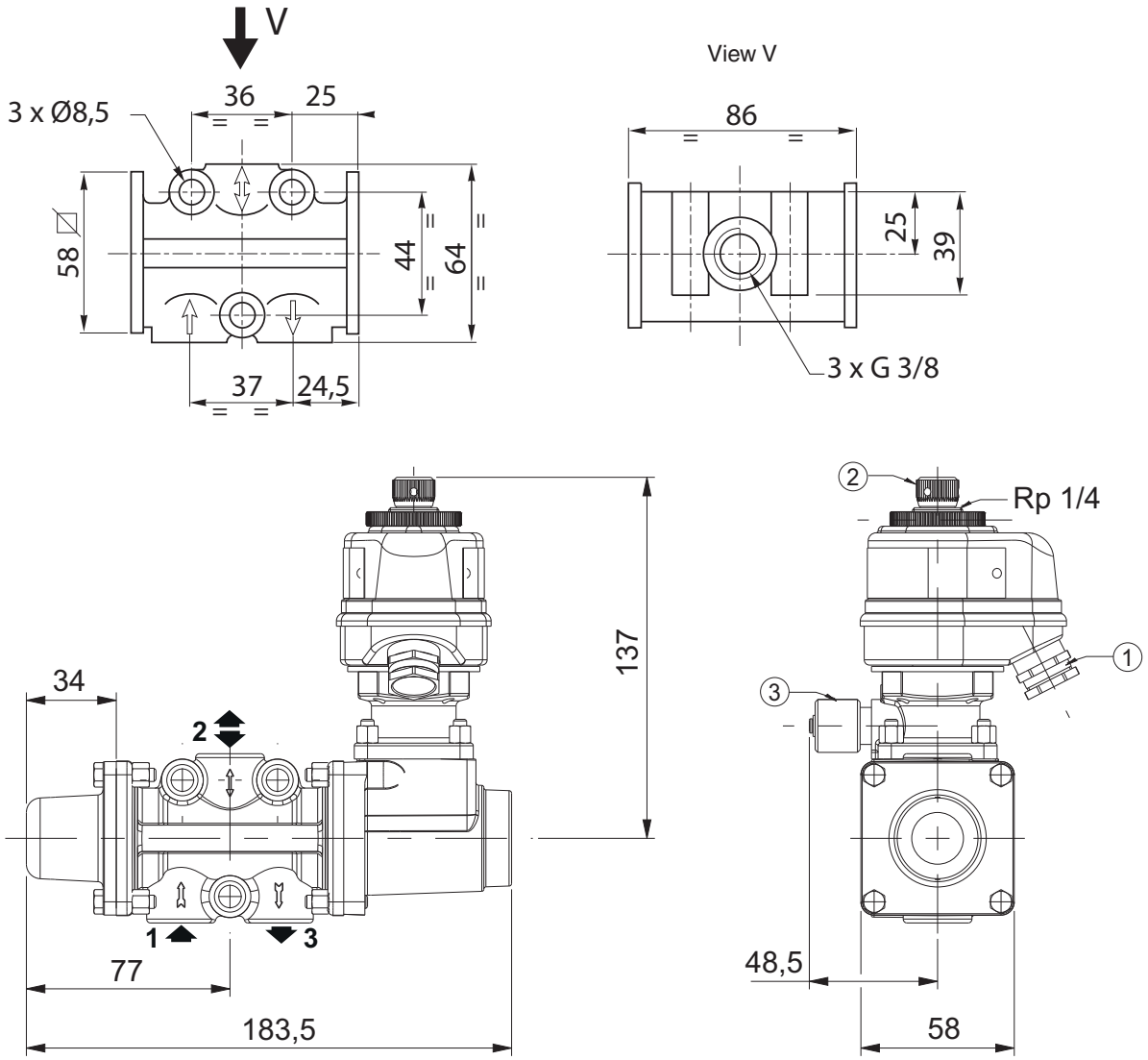
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m³/h)	(l/min)	(m³/h)	(l/min)	(ms)	min.	max.		
3/8	9	80,6	1345	76	1270	500	3	10	**23102033.48/DC** **23102033.125/DC**	MT302 D(1) - K2

(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



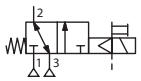
weight
2,7

1. Cable entry, CM10 (Ø6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

MT302 S 2I1O G3/8"

K2 RCC-E



3/2
Series
231

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

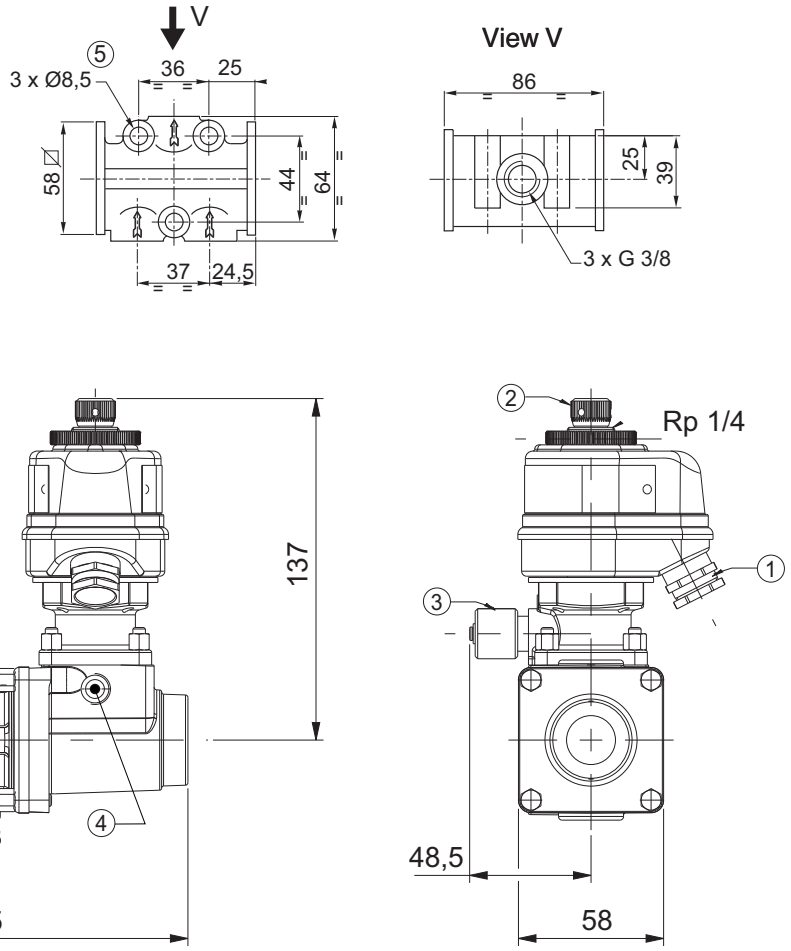
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
3/8	9	76	1270	500	3	10	**23102036.48/DC** **23102036.125/DC**	MT302 S(1) 2I 1O - K2

(1) S = external supply / 2I1O = 2 inlets 1 outlet

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



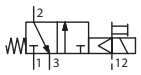
weight
2,7

1. Cable entry, CM10 (Ø 6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

MT302 S G3/8"

K2 RCC-E

NC 

3/2
Series
231

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

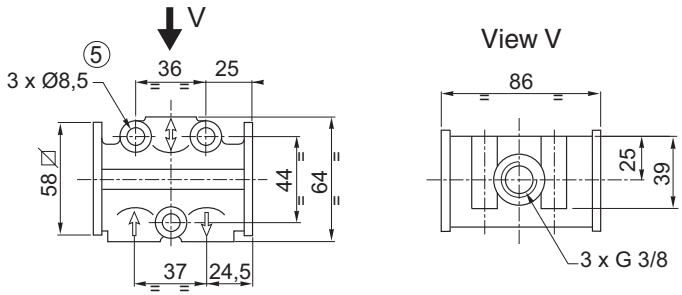
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference	orientation type
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.			
3/8	9	80,6	1345	76	1270	500	3	10	**23102025.48/DC**	MT302 S(1) - K2	01
									23102025.125/DC		
									23102113.48/DC		02
									23102113.125/DC		

(1) External supply

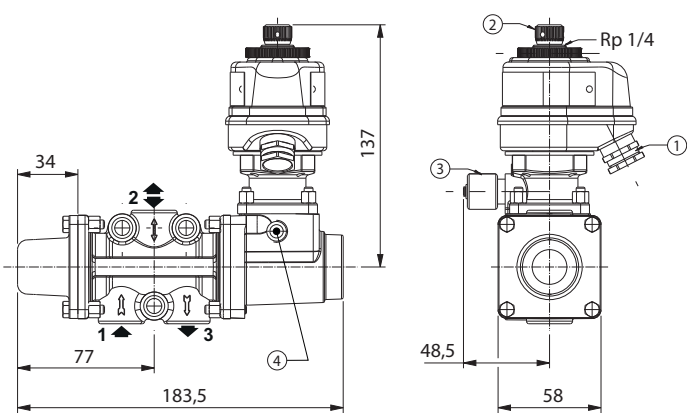
INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

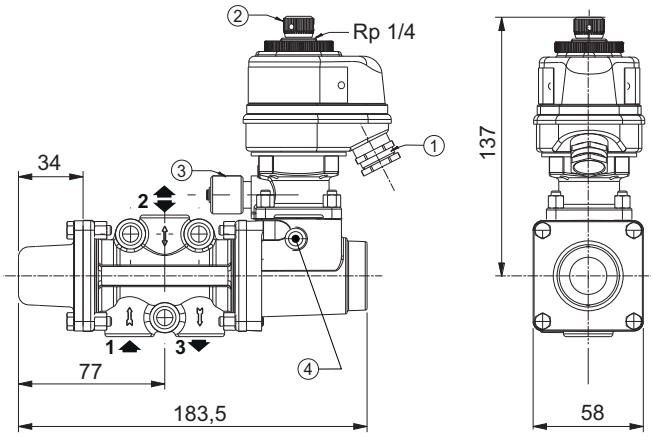
DIMENSIONS (mm), WEIGHT (kg)



TYPE 01



TYPE 02



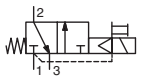
type	weight
01 / 02	2,7

(1) Cable entry, CM10 (Ø 6,5-11 mm)
(2) 3/2 NC: exhaust protector
(3) Manual operator location
(4) G 1/4 for external pilot supply
(5) 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

MT302 D G3/8"

K2 RCC-E

NC 

3/2
Series
231

K2

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50

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SPECIFICATIONS

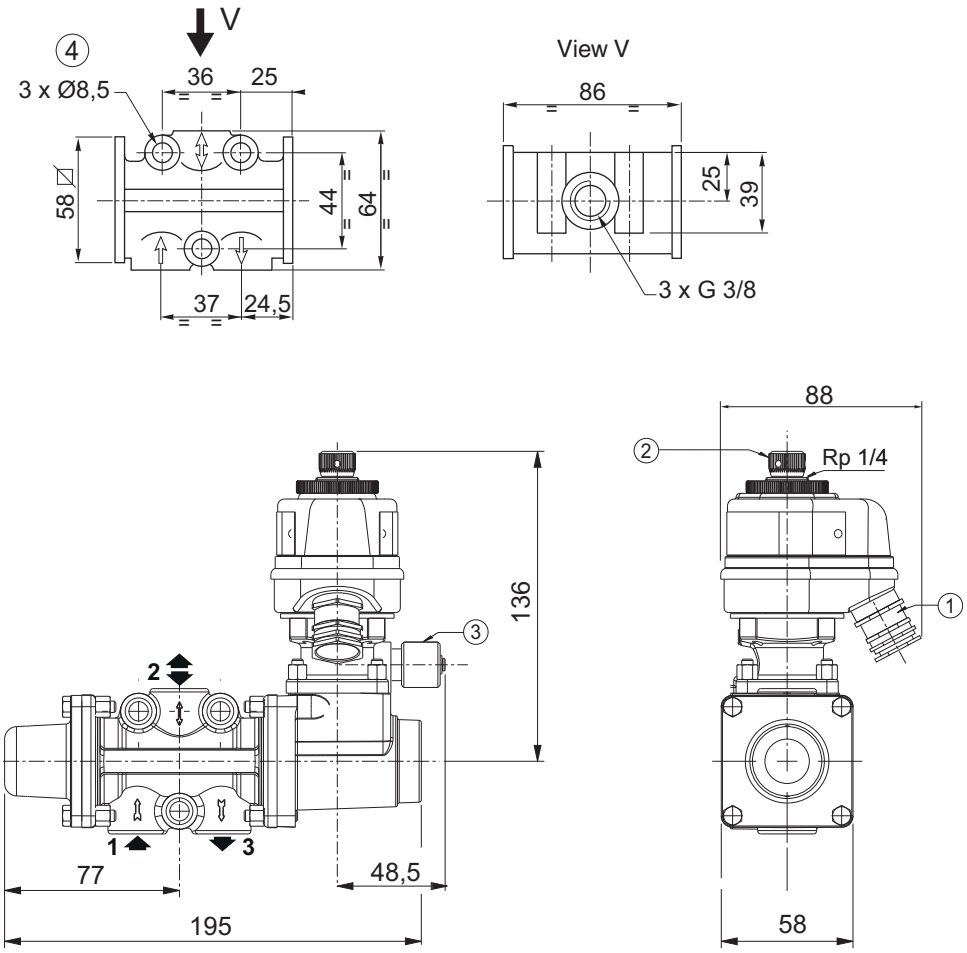
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
3/8	9	80,6	1345	76	1270	500	3	10	**X231519566001H9**	MT302 D(1).48/DC - K2

(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



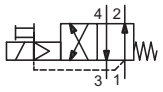
weight
3,5

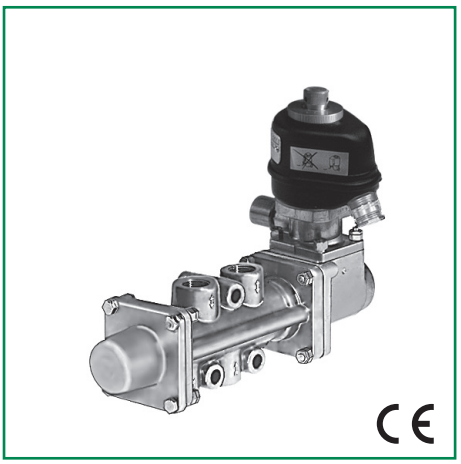
1. Cable entry, CM12 (cable Ø 8,5-13 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

MT402 D G3/8"

K2 RCC-E





QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT402 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

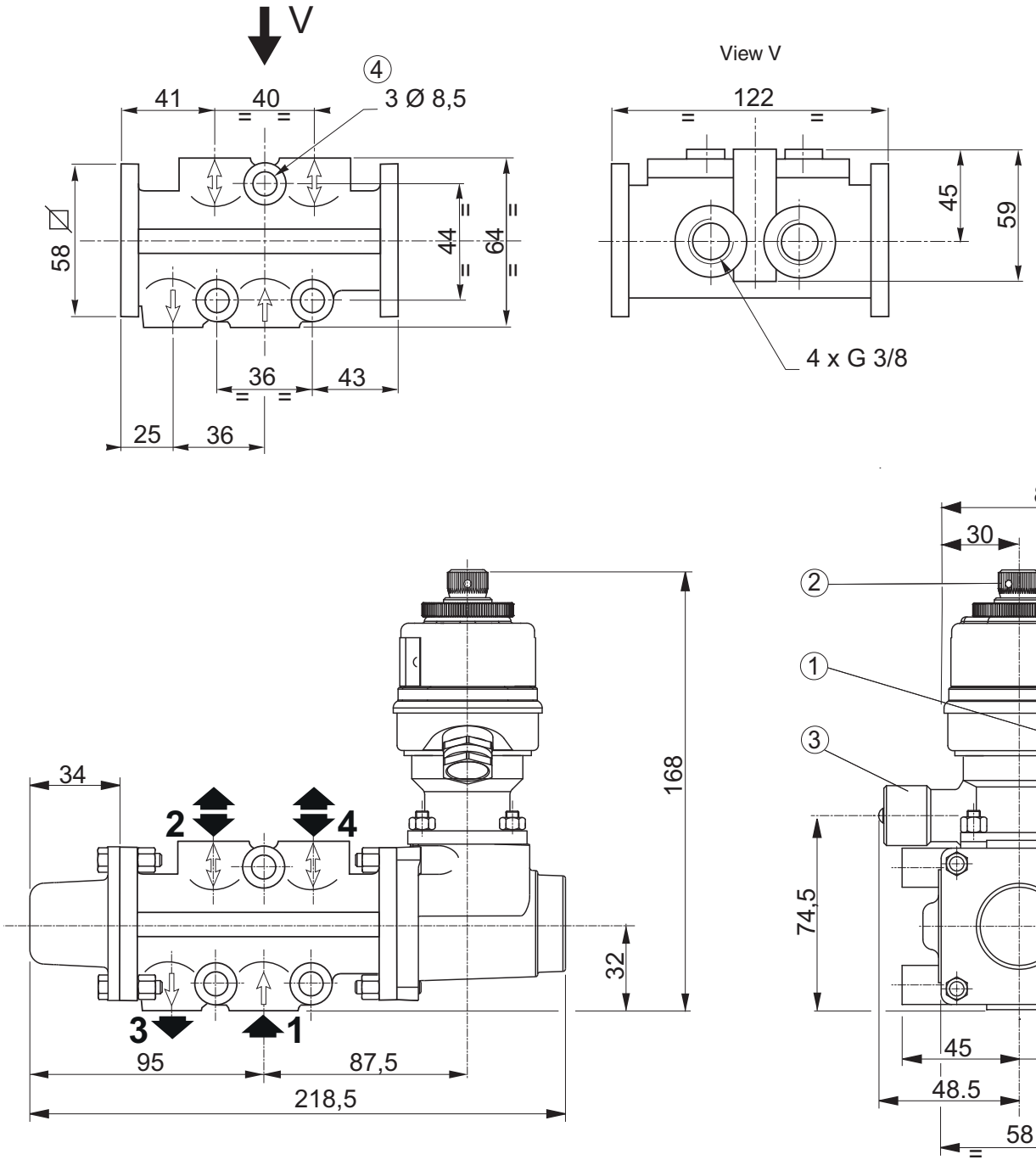
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h) 1→2 1→4	(m³/h) 1→2	(m³/h) 2→3	(l/min) 1→2 1→4	(l/min) 1→2	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
3/8	9	84,4	61,6	80,7	1400	1030	1345	500	3	10	**23202007.48/DC**	MT402 D(1) - K2
											23202007.125/DC	

(1) D = Direct supply.

INSTALLATION

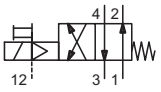
- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

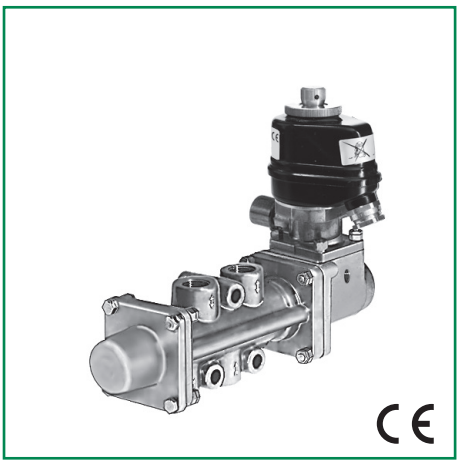
DIMENSIONS (mm), WEIGHT (kg)



weight
4

1. Cable entry, CM10 (Ø 6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.





QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT402 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

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SPECIFICATIONS

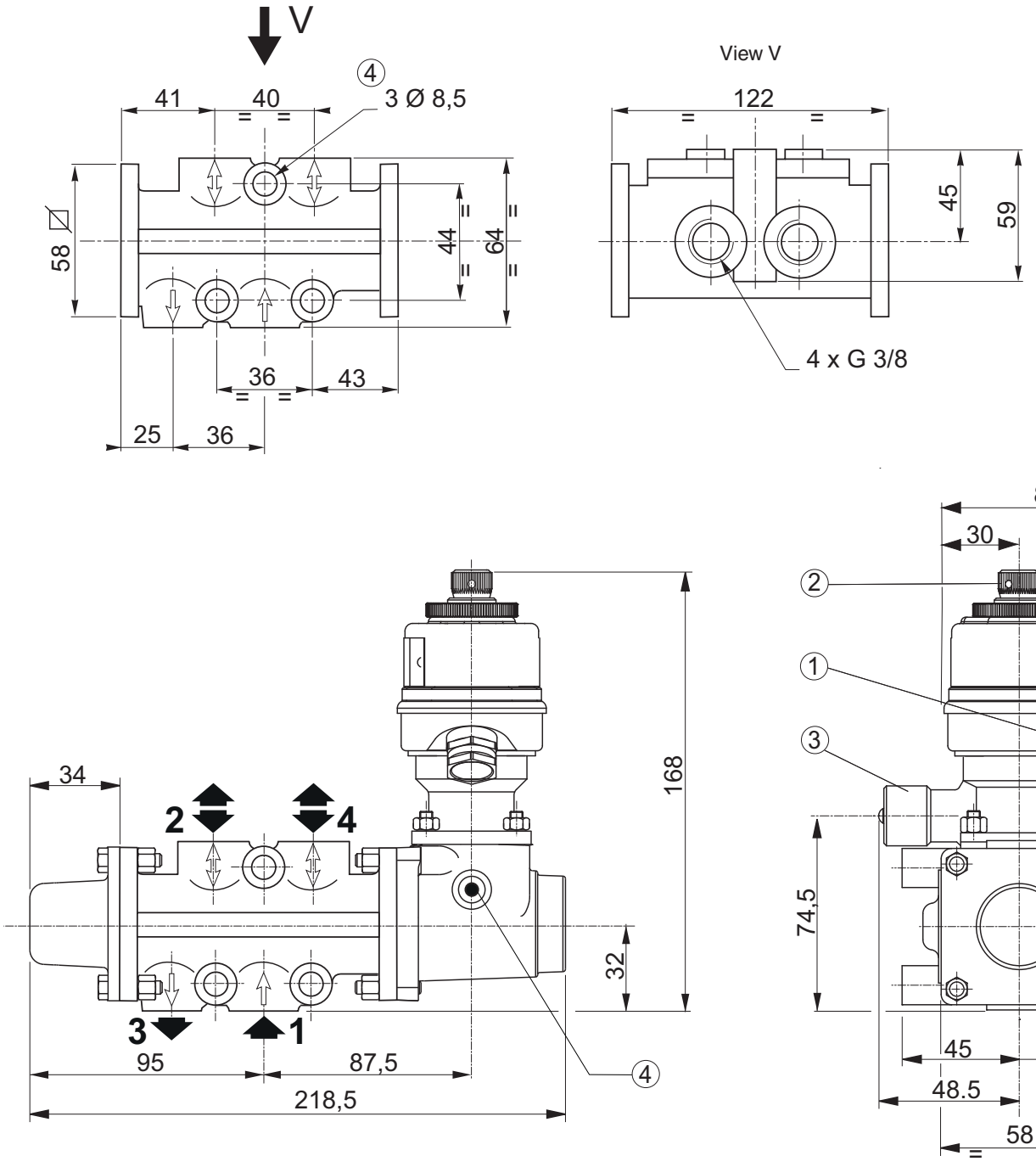
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h) 1→2 1→4	(m³/h) 1→2	(m³/h) 2→3	(l/min) 1→2 1→4	(l/min) 1→2	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
3/8	9	84,4	61,6	80,7	1400	1030	1345	500	3	10	**23202004.48/DC** **23202004.125/DC**	MT402 S(1) - K2

(1) External supply

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



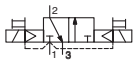
weight
4

1. Cable entry, CM10 (Ø 6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 8,5 mm dia.

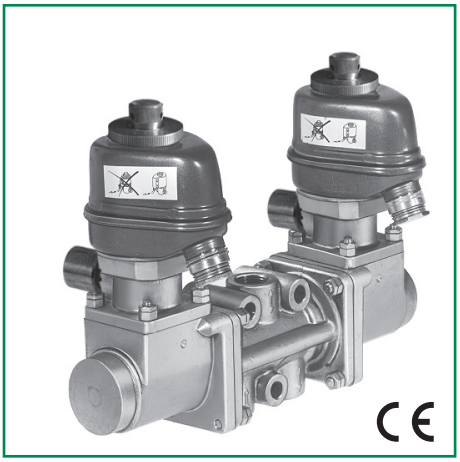
SOLENOID VALVES

M2T302 D G3/8"

K2 RCC-E

NC 

3/2
Series
231



K2

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *M2T302 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

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SPECIFICATIONS

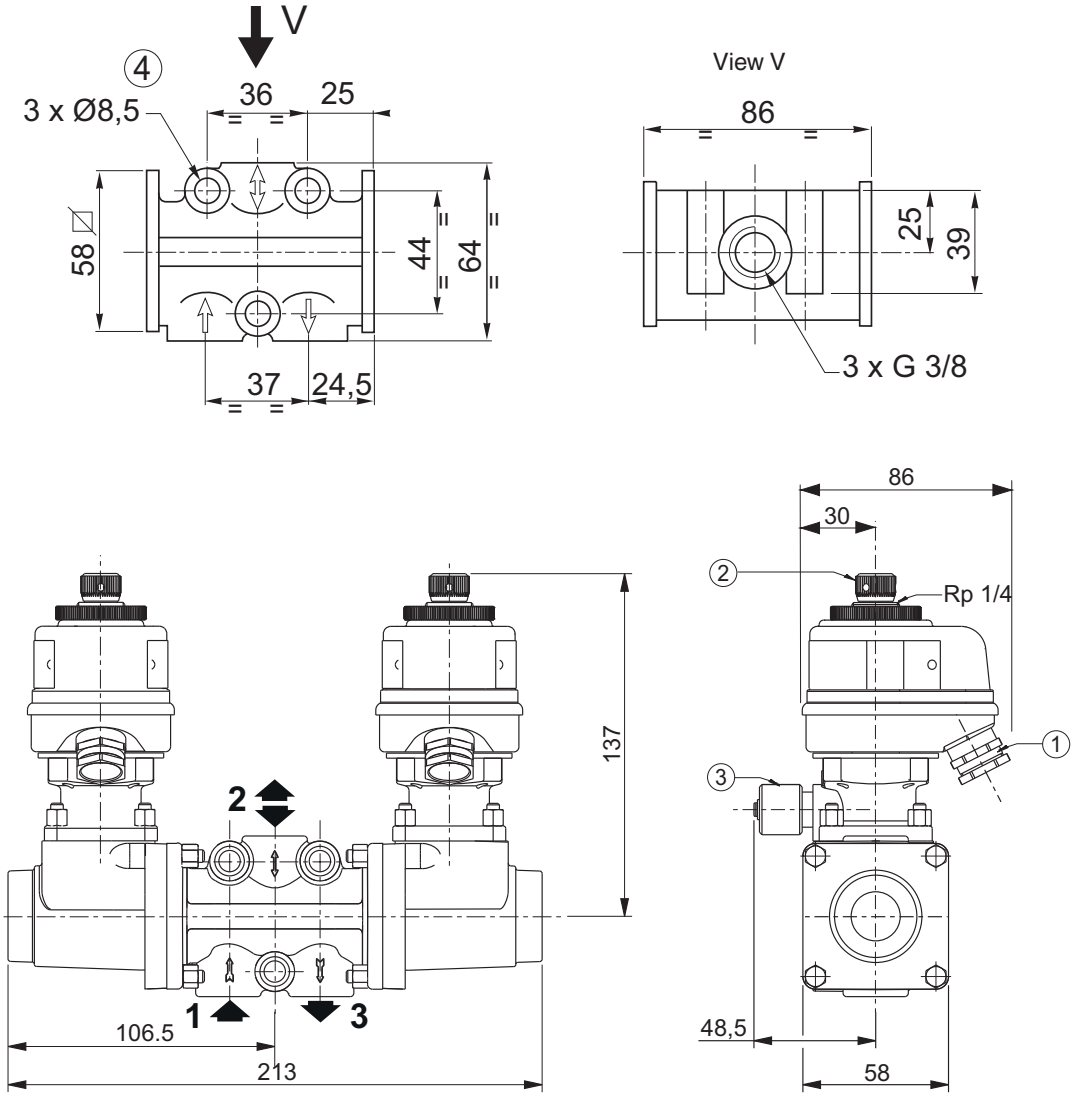
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m³/h)	(l/min)	(m³/h)	(l/min)	(ms)	min.	max.		
3/8	9	80,6	1345	76	1270	500	3	10	**23102027.48/DC** **23102027.125/DC**	M2T302 D(1) - K2

(1) D = Direct supply.

INSTALLATION

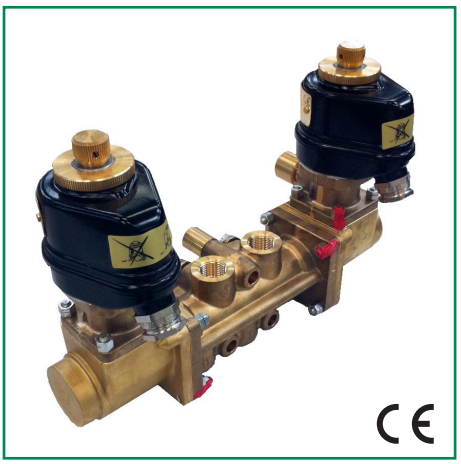
- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



weight
4,3

1. Cable entry, CM10 (Ø6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *M2T402 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

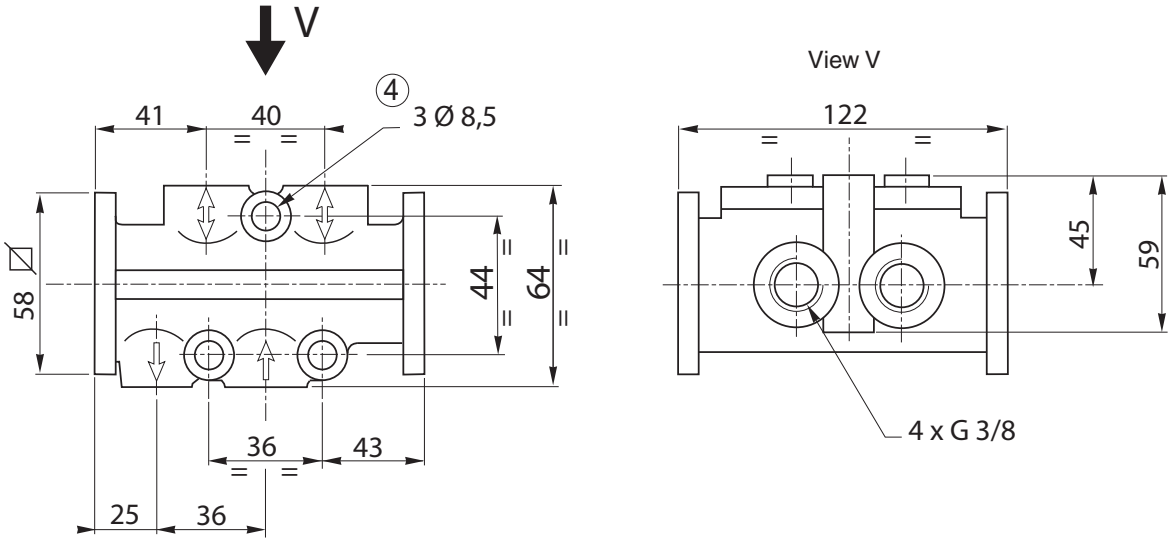
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h) 1→2 1→4	(m³/h) 1→2	(m³/h) 2→3	(l/min) 1→2 1→4	(l/min) 1→2	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
3/8	9	84,4	61,6	80,7	1400	1030	1345	500	3	10	**23202003.48/DC**	M2T402 D(1) - K2
											23202003.125/DC	

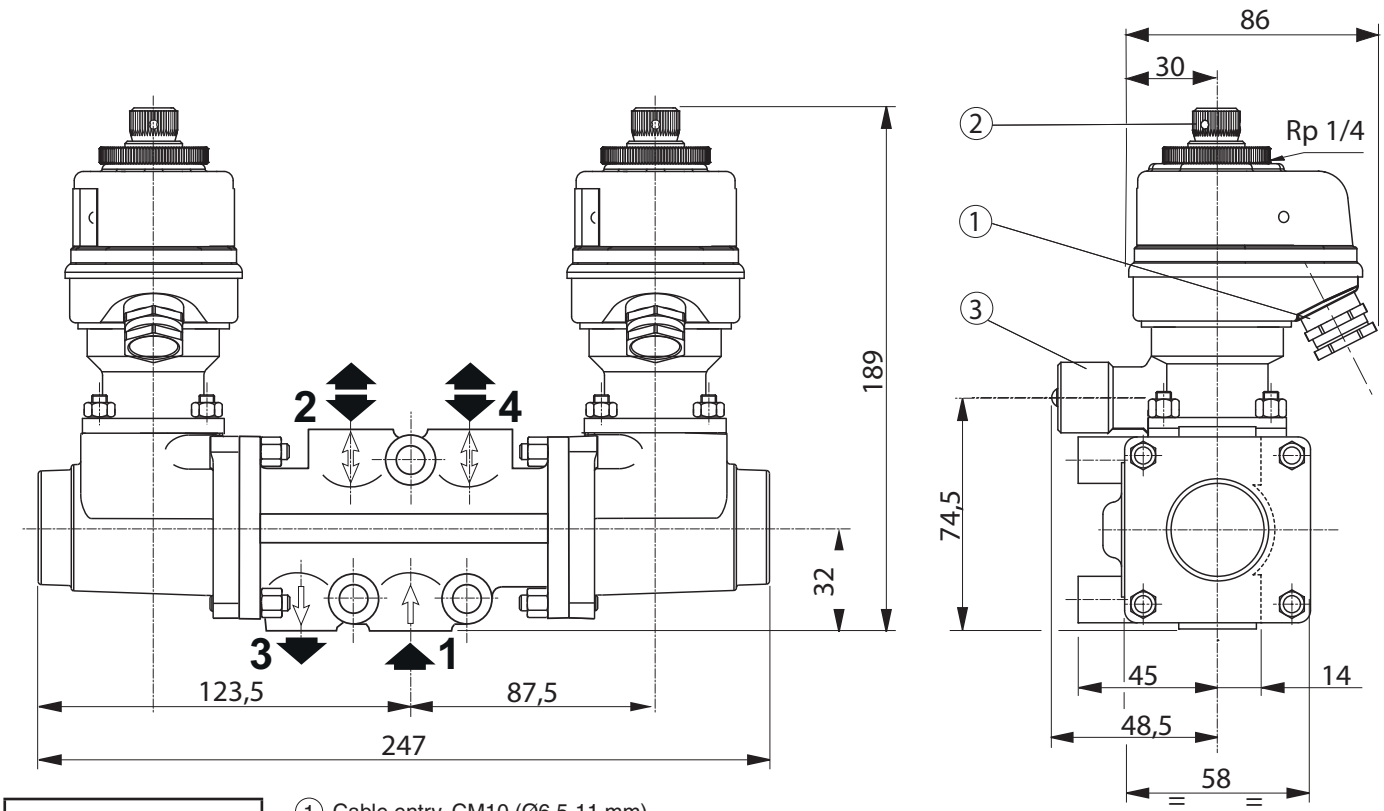
(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)





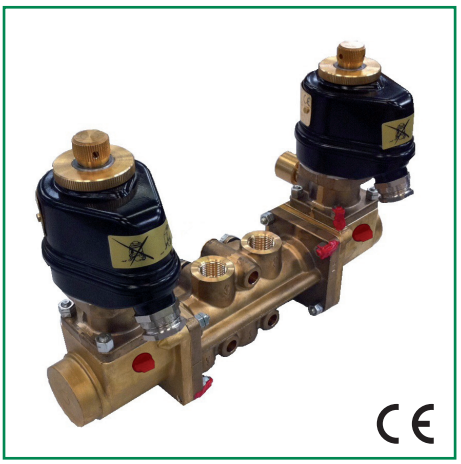
weight
5,5

1. Cable entry, CM10 (Ø6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

M2T402 S G3/8"

K2 RCC-E



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *M2T402 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

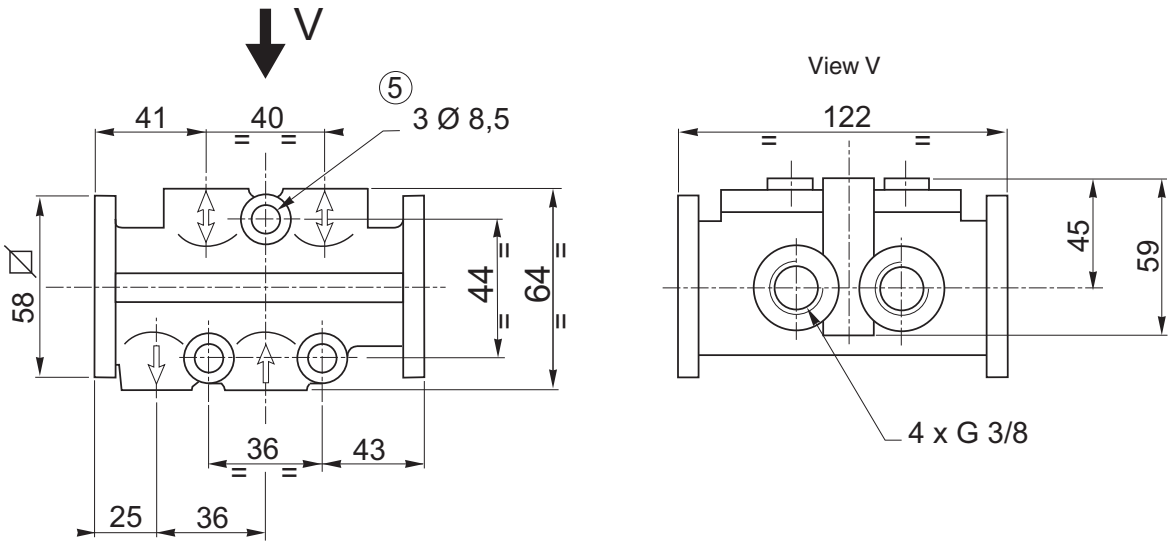
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h) 1→2 1→4	(m³/h) 1→2	(m³/h) 2→3	(l/min) 1→2 1→4	(l/min) 1→2	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
3/8	9	84,4	61,6	80,7	1400	1030	1345	500	3	10	**23202036.48/DC** **23202036.125/DC**	M2T402 S(1) - K2

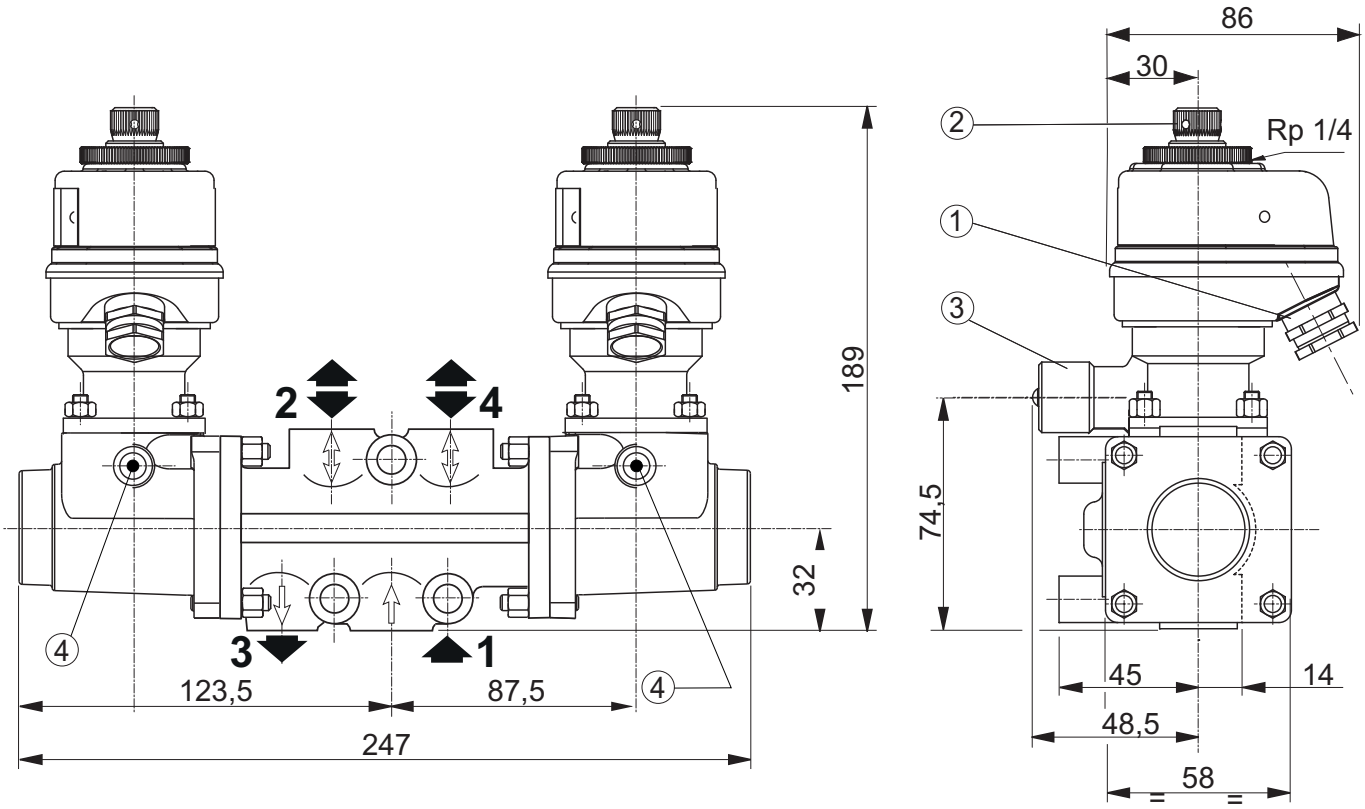
(1) External supply

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)





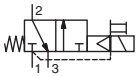
weight
5,5

1. Cable entry, CM10 (Ø6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 8,5 mm dia.

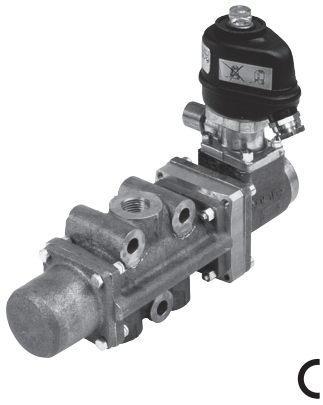
SOLENOID VALVES

MT303 D G1/2"

K2 RCC-E

NC 

3/2
Series
231



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT303 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

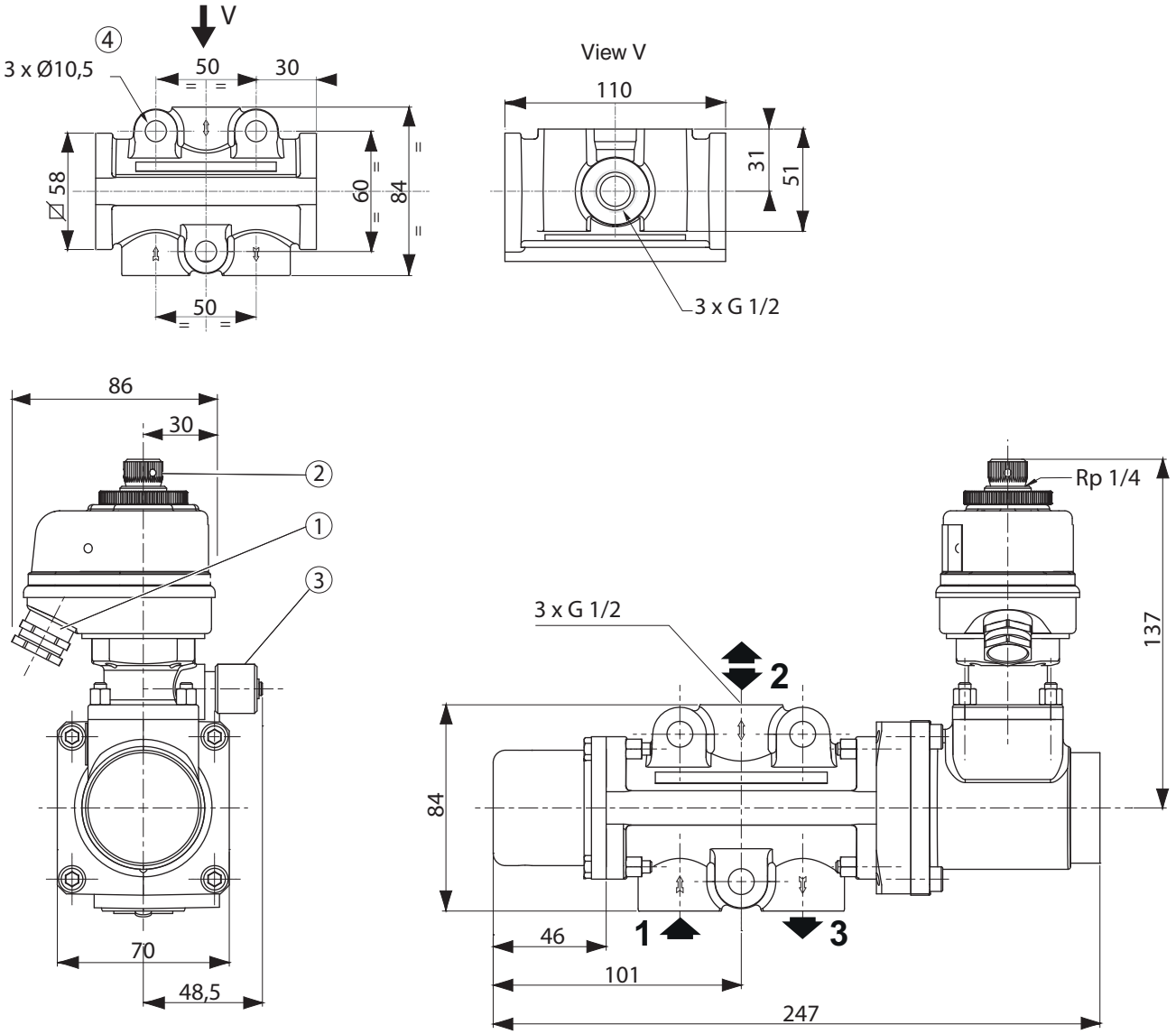
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m³/h)	(l/min)	(m³/h)	(l/min)	(ms)	min.	max.		
1/2	15	261	4360	172,7	2880	500	3	10	**23102026.48/DC** **23102026.125/DC**	MT303 D(1) - K2

(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



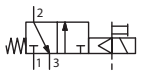
weight (1)
4

① Cable entry, CM10 (Ø 6,5-11 mm)
② 3/2 NC: exhaust protector
③ Manual operator location
④ 3 mounting holes 10,5 mm dia.

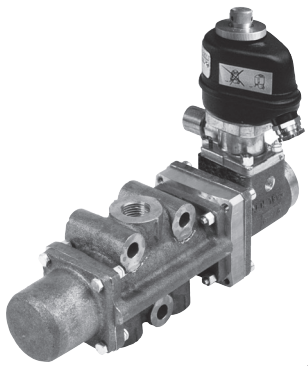
SOLENOID VALVES

MT303 S G1/2"

K2 RCC-E

NC 

3/2
Series
231



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT303 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

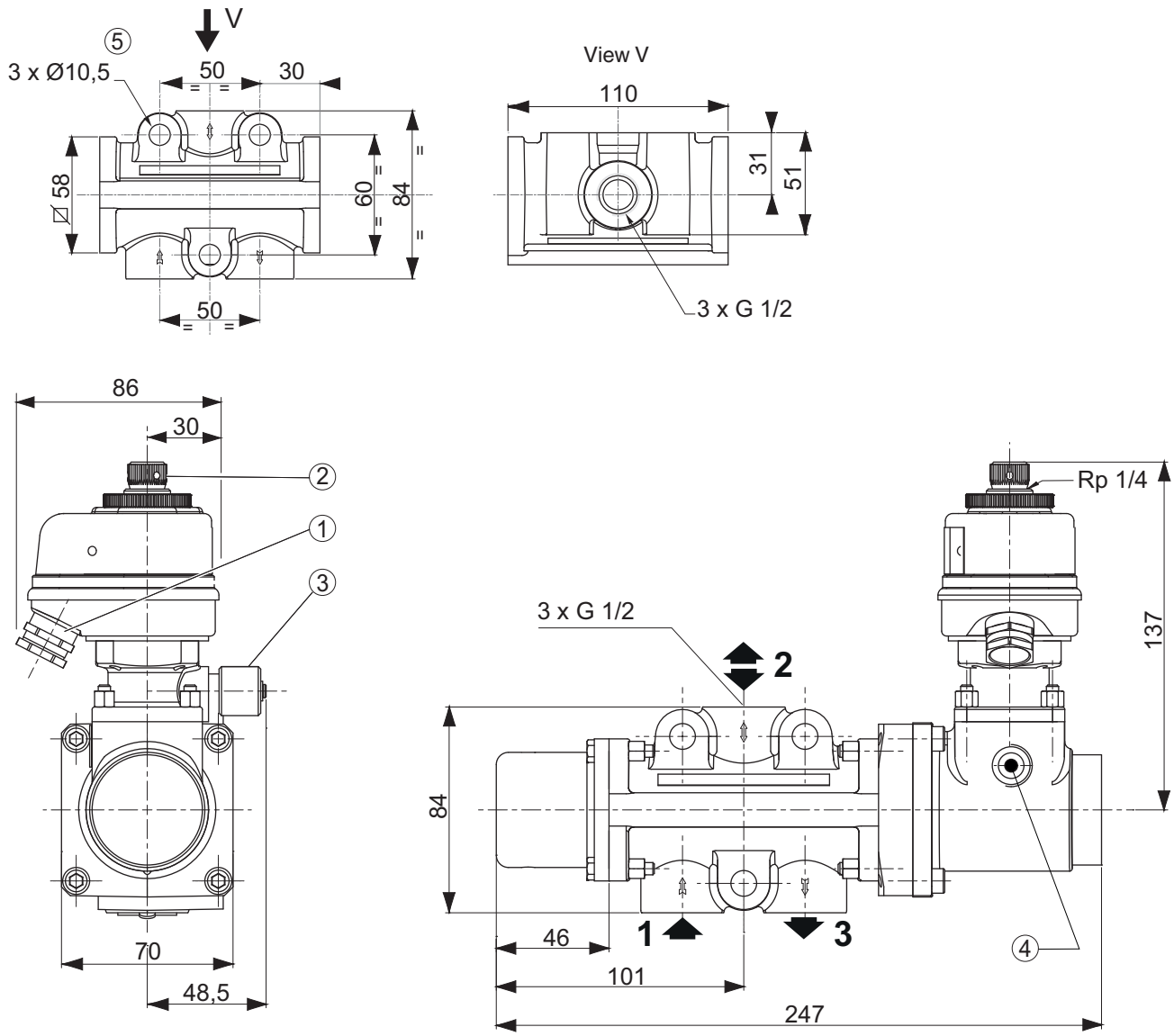
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/2	15	261	4360	172,7	2880	500	3	10	**23102041.48/DC** **23102041.125/DC**	MT303 S(1) - K2

(1) S = external supply

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



weight
4

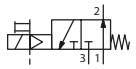
1. Cable entry, CM10 (Ø 6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 10,5 mm dia.

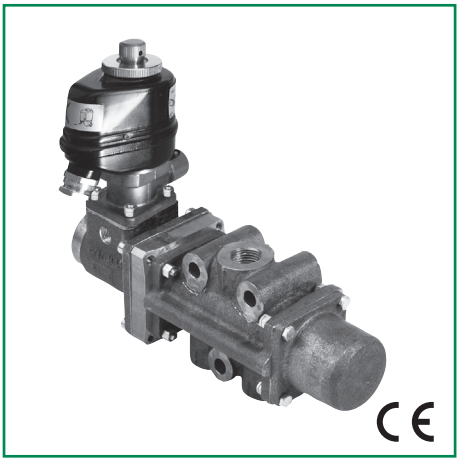
SOLENOID VALVES

MT303 S G1/2"

K2 RCC-E

NO





QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT303 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

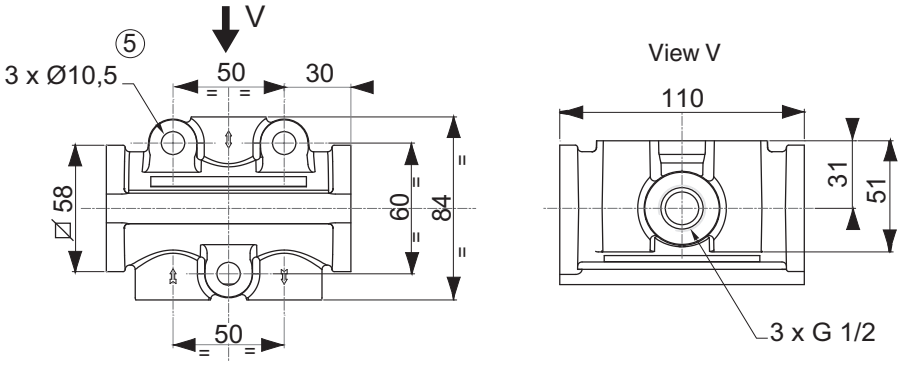
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/2	15	261	4360	172,7	2880	500	3	10	**23102045.48/DC** **23102045.125/DC**	MT303 S(1) - K2

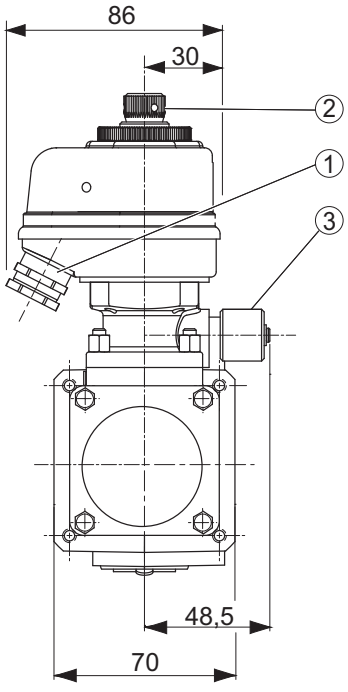
(1) S = external supply

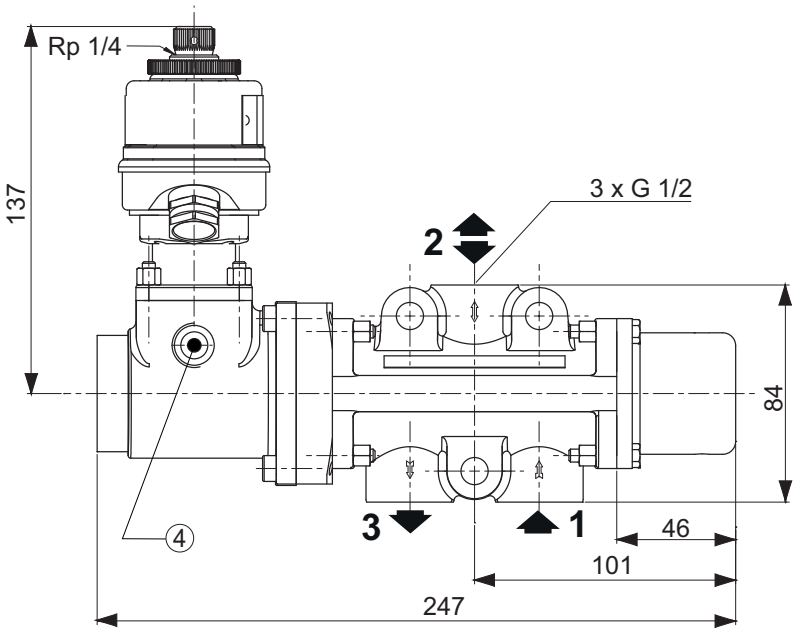
INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)







2

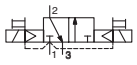
weight
4

1. Cable entry, CM10 (Ø 6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 10,5 mm dia.

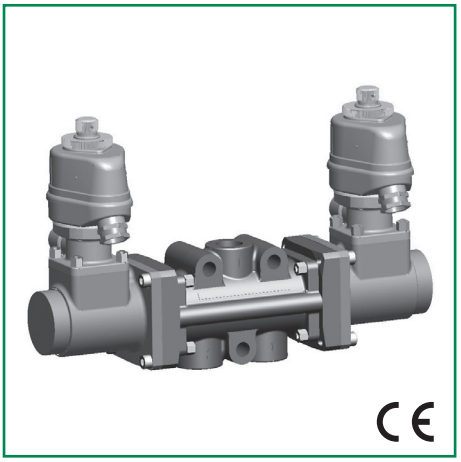
SOLENOID VALVES

M2T303 D G1/2"

K2 RCC-E

NC 

3/2 Series 231



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *M2T303 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

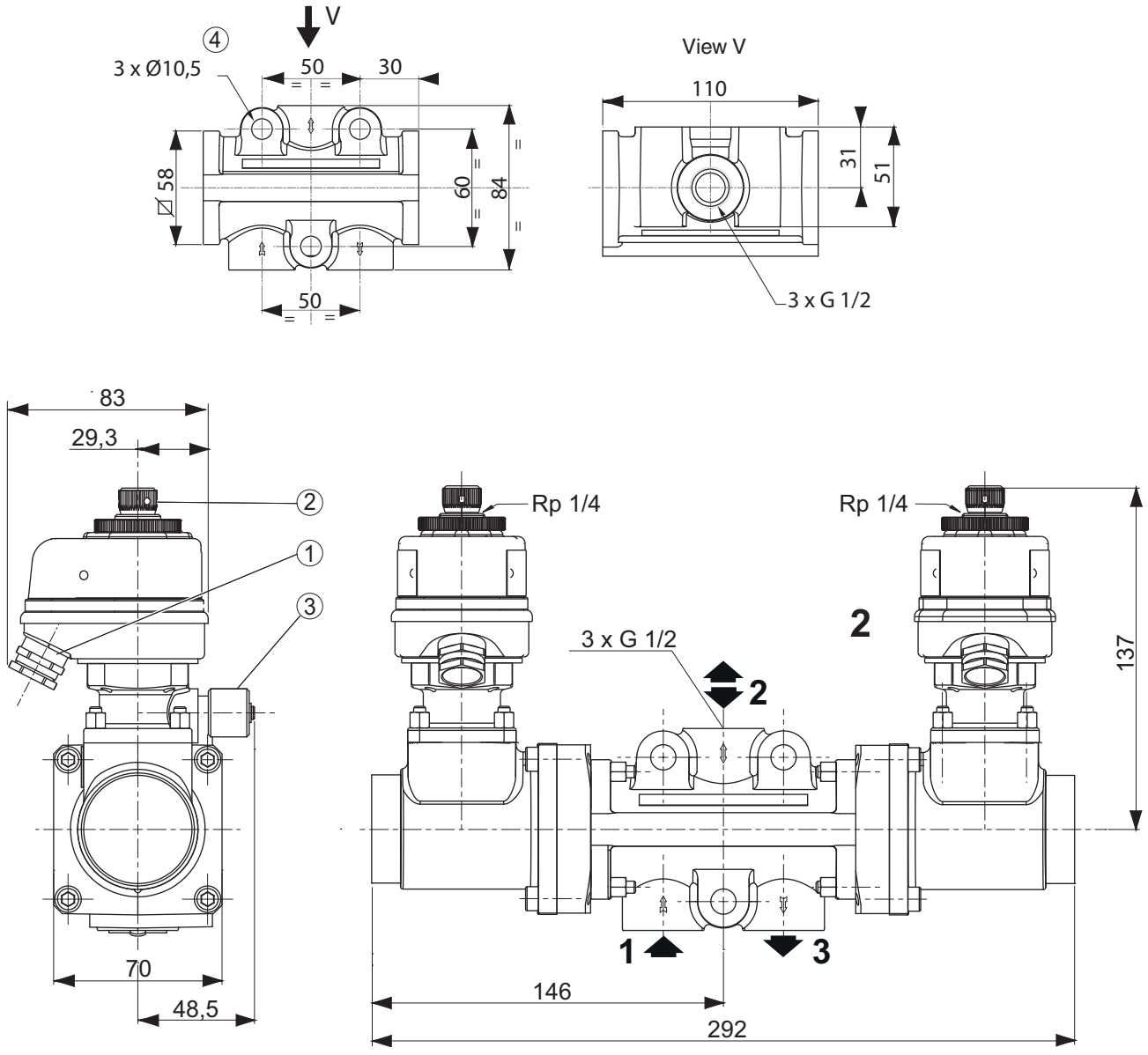
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/2	15	261	4360	172,7	2880	500	3	10	**23102028.48/DC** **23102028.125/DC**	M2T303 D(1) - K2

(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



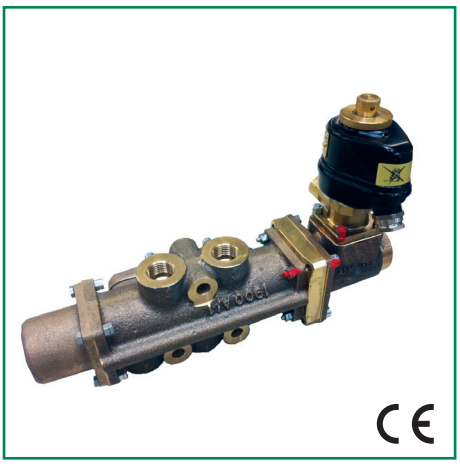
weight
4,3

1. Cable entry, CM10 (Ø6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 10,5 mm dia.

SOLENOID VALVES

MT403 D G1/2"

K2 RCC-E



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT403 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

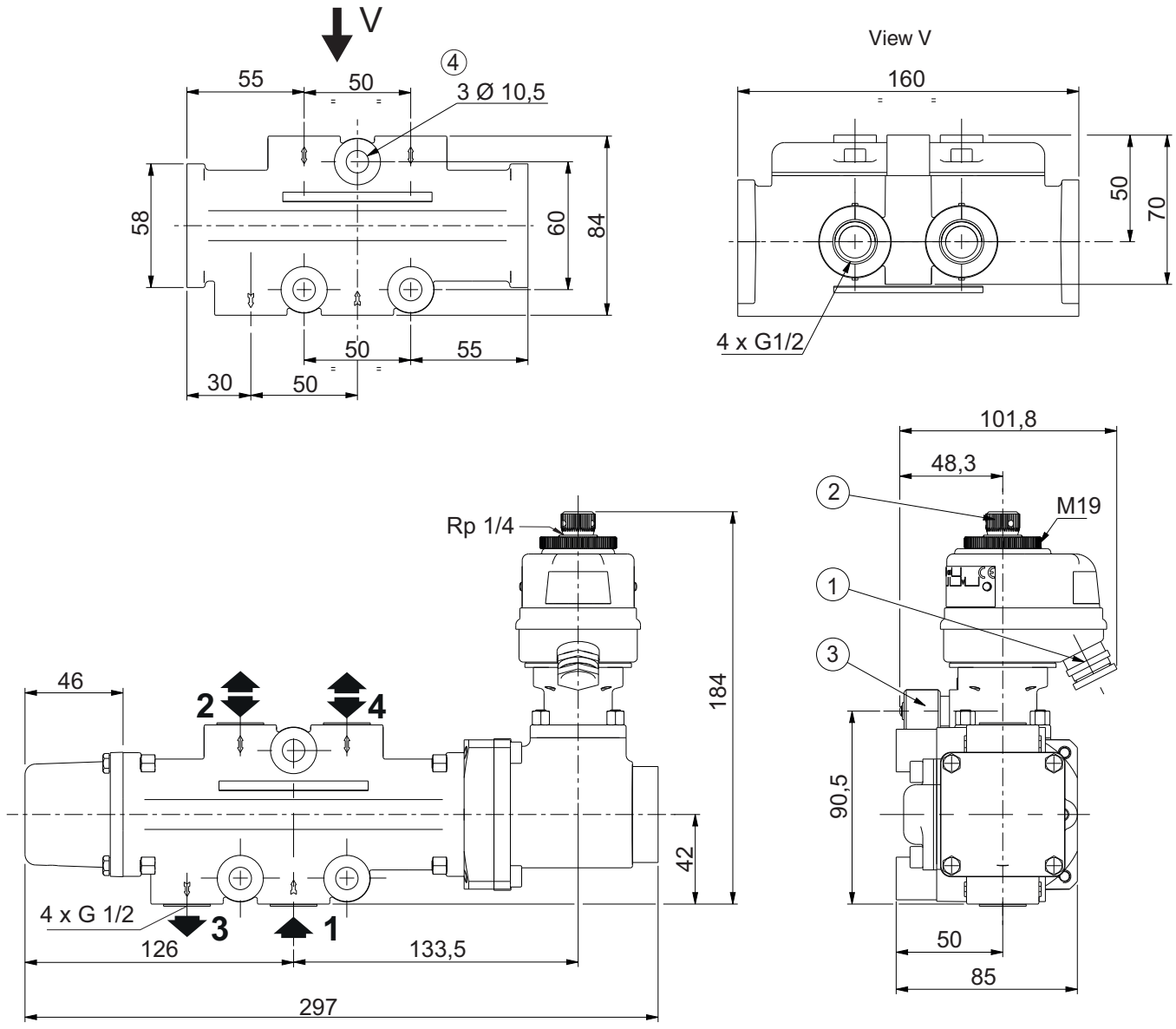
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h) 1→2 1→4	(m³/h) 4→3	(m³/h) 2→3	(l/min) 1→2 1→4	(l/min) 4→3	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
1/2	15	202	185,5	202	3360	3040	3360	500	3	10	**23202022.48/DC** **23202022.125/DC**	MT403 D(1) - K2

(1) D = Direct supply.

INSTALLATION

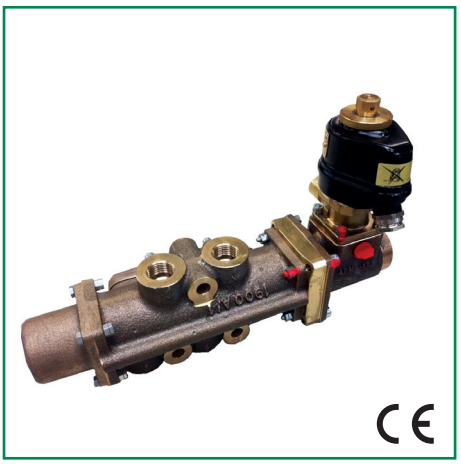
- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



weight
5,9

(1) Cable entry, CM10 (Ø 6,5-11 mm)
(2) 3/2 NC: exhaust protector
(3) Manual operator location
(4) 3 mounting holes 10,5 mm dia.



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT403 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

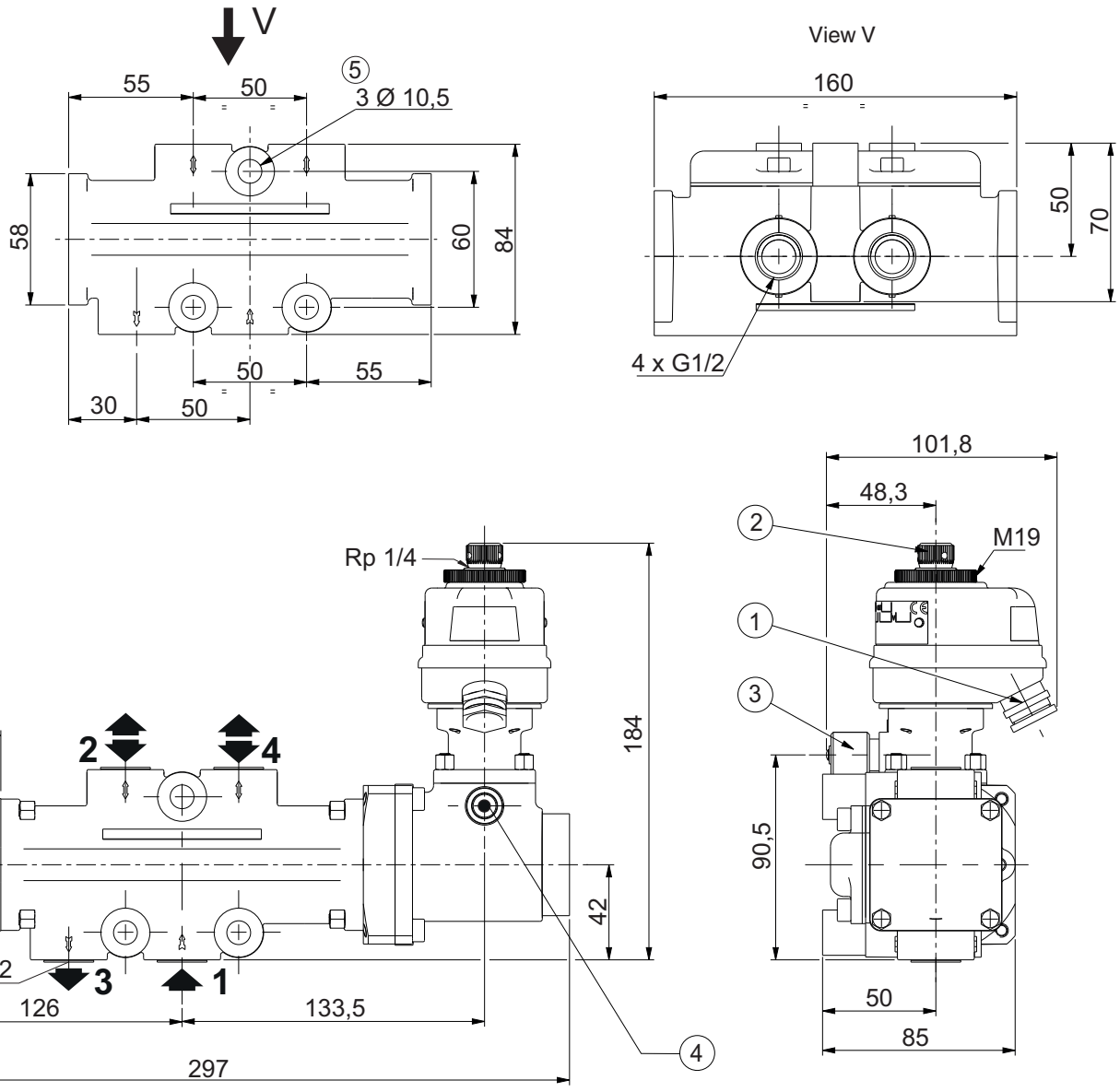
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h) 1→2 1→4	(m³/h) 4→3	(m³/h) 2→3	(l/min) 1→2 1→4	(l/min) 4→3	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
1/2	15	202	185,5	202	3360	3040	3360	500	3	10	**23202024.48/DC** **23202024.125/DC**	MT403 S(1) - K2

(1) External supply

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



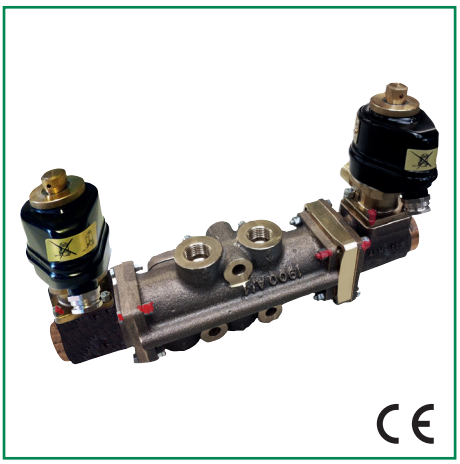
weight
5,9

1. Cable entry, CM10 (Ø 6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 10,5 mm dia.

SOLENOID VALVES

M2T403 D G1/2"

K2 RCC-E



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *M2T403 - HM-63/9667*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM10 (cable Ø 6,5-11 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

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SPECIFICATIONS

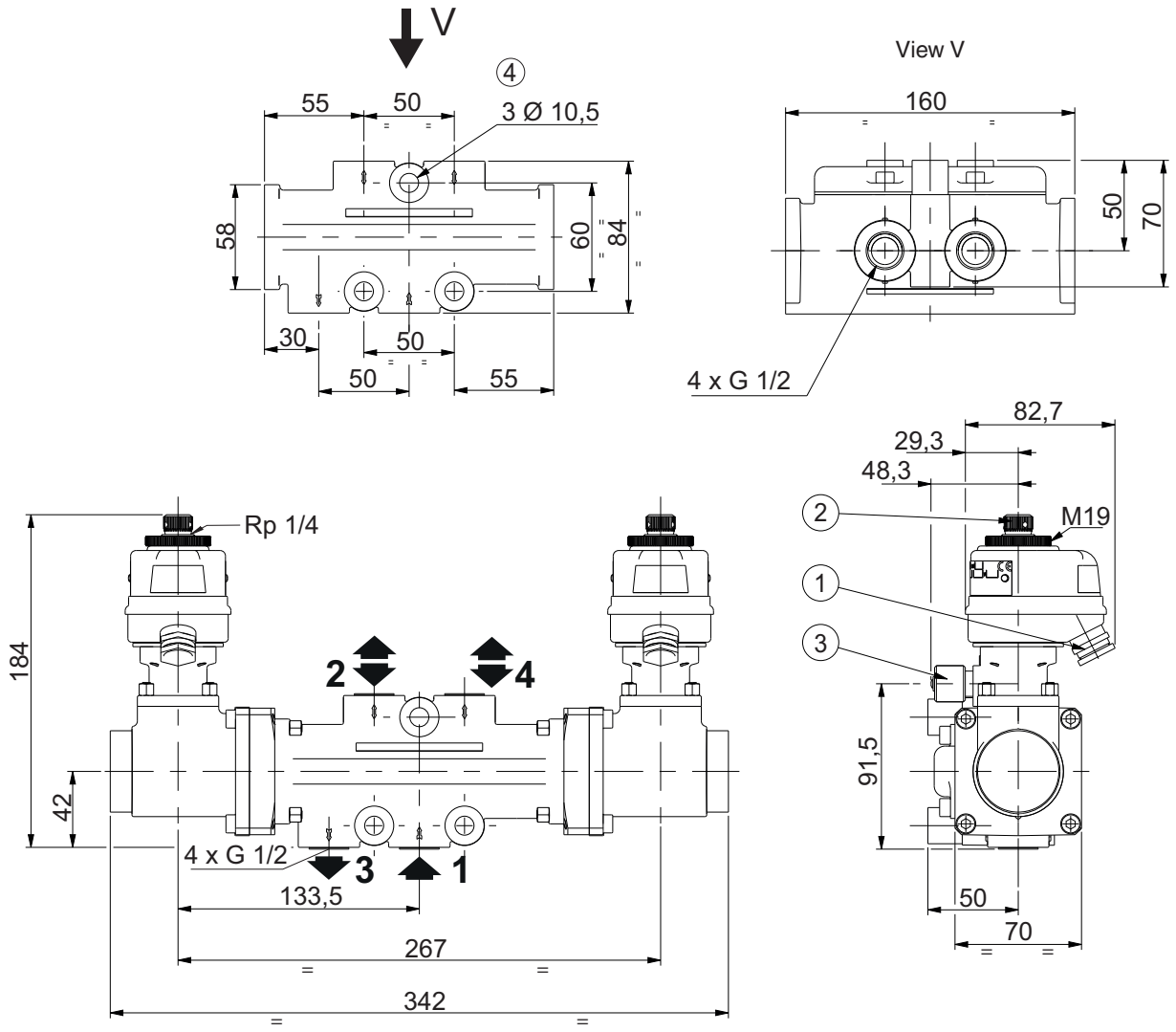
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h) 1→2 1→4	(m³/h) 4→3	(m³/h) 2→3	(l/min) 1→2 1→4	(l/min) 4→3	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
1/2	15	202	185,5	202	3360	3040	3360	500	3	10	**23202034.48/DC** **23202034.125/DC**	M2T403 D(1) - K2

(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



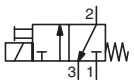
weight
7,4

1. Cable entry, CM10 (Ø6,5-11 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 10,5 mm dia.

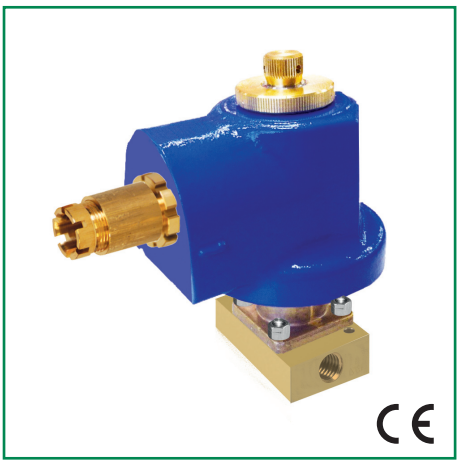
SOLENOID VALVES

MB 301 O 3 G1/4"

K2 RCC-E

NC 

3/2 Series 121



K2

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, BV2 (cable Ø 8,5 to 14,5 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP65	+5 to +50

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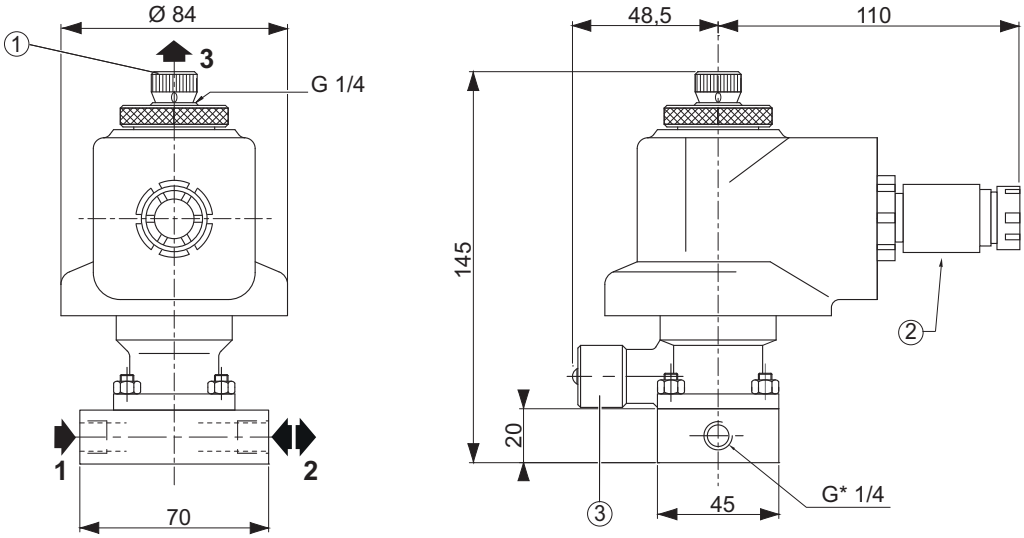
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G*	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12101357.48/DC**	MB301 O 3 - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (G) is standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



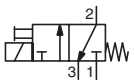
weight
3

1. 3/2 NC: exhaust protector
2. Cable gland, BV2 (Ø 8,5 to 14,5 mm)
3. Manual operator location

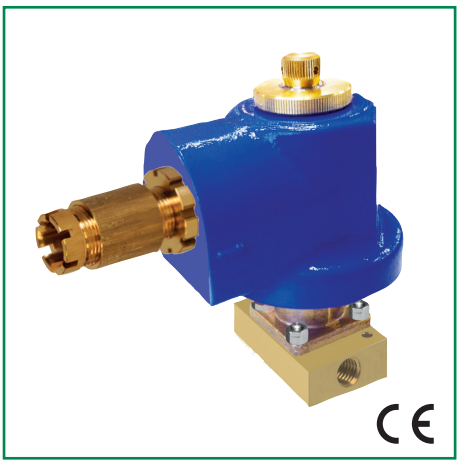
SOLENOID VALVES

MB 301 O 3 G1/4"

K2 RCC-E

NC 

3/2 Series 121



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, BV4 (cable Ø 16,5 to 22,6 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

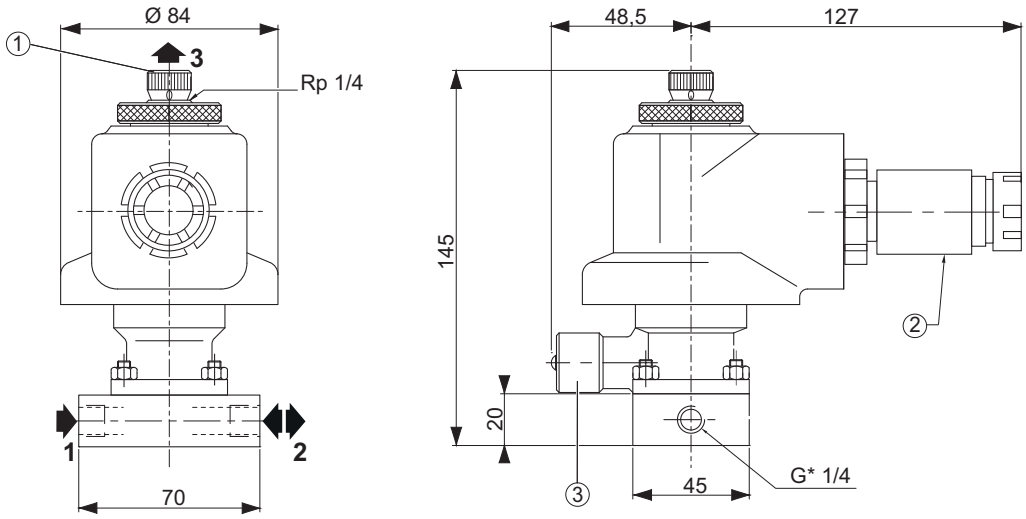
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G*	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12101238.48/DC**	MB301 O 3 - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (G) is standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



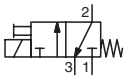
weight
3

1. 3/2 NC: exhaust protector
2. Cable gland, BV4 (Ø 16,5 to 22,6 mm)
3. Manual operator location

SOLENOID VALVES

V 301 O 5 Rp1/4"

K2 RCC-E

NC 

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2005:*
  - Surge immunity test (according to EN61000-4-5):
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C without supply voltage*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint
Threaded base, cover & screw Steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, BV2 (cable Ø 8,5 to 14,5 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

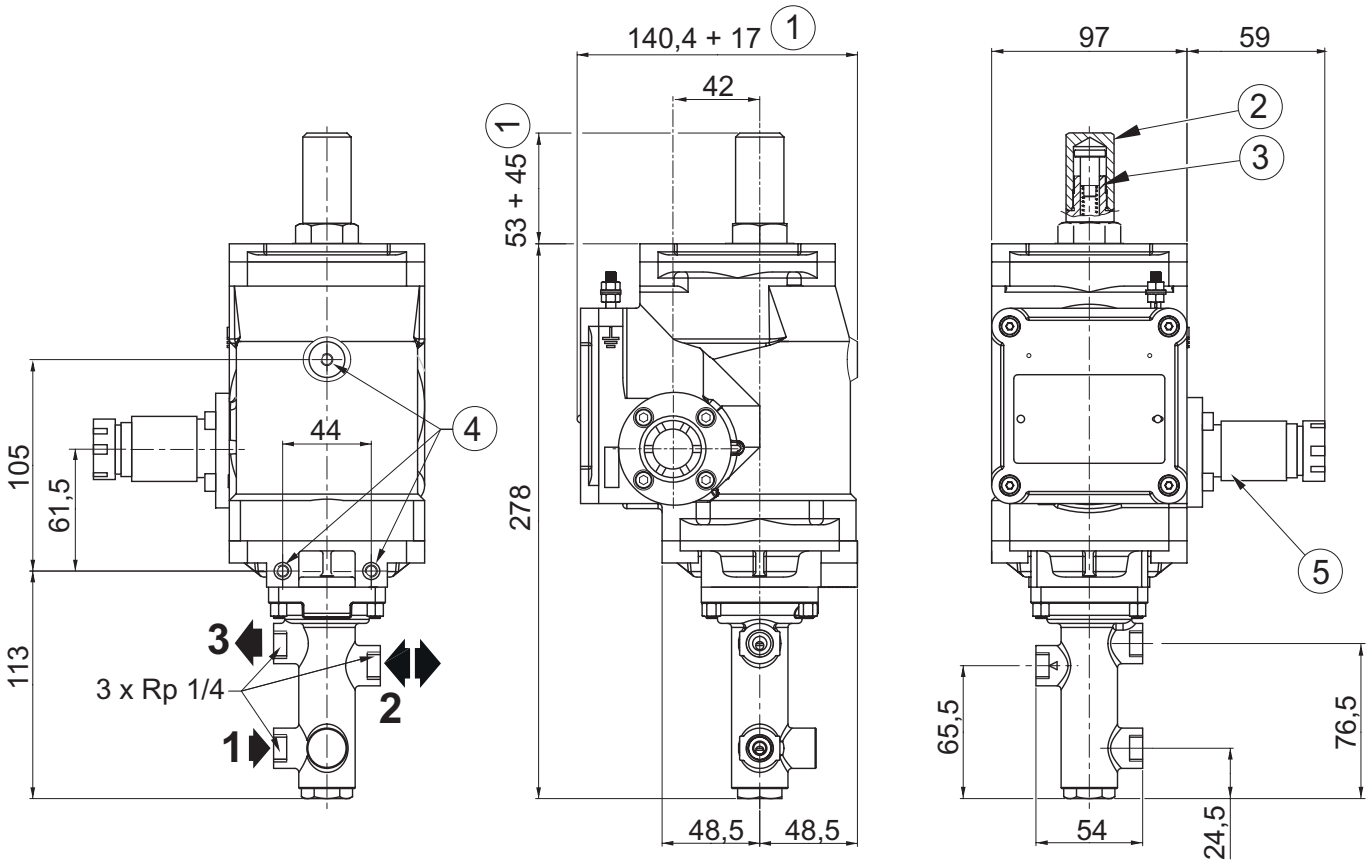
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**X131509998001H9**	V301 O 5 - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



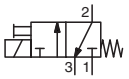
weight
7,9

(1) Dimension to be added to allow for removalr
(2) Cover for manual operator
(3) Manual operator location
(4) 3 mounting holes M6, depth 9 mm
(5) Cable gland, BV2 (Ø 8,5 to 14,5 mm)

SOLENOID VALVES

V 301 O 5 Rp1/4"

K2 RCC-E

NC 

3/2 Series 131

K2

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint
Threaded base, cover & screw Steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, BV4 (cable Ø 16,5 to 22,6 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

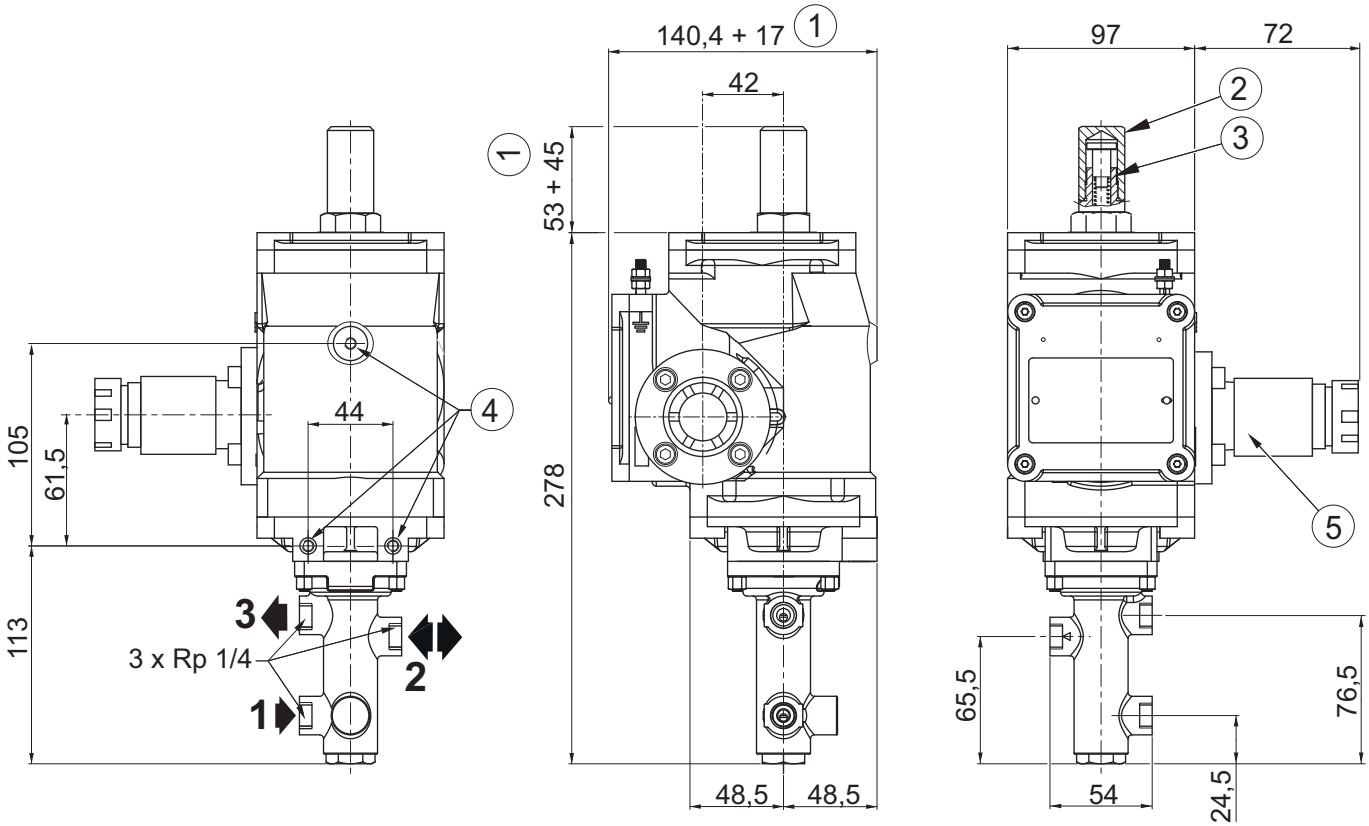
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**13102151.48/DC**	V301 O 5 - K2

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



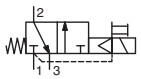
type	weight
01	7,9

(1) Dimension to be added to allow for removalr
(2) Cover for manual operator
(3) Manual operator location
(4) 3 mounting holes M6, depth 9 mm
(5) Cable gland, BV4 (Ø 16,5 to 22,6 mm)

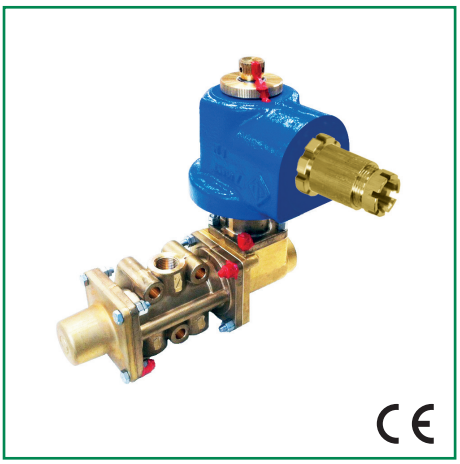
SOLENOID VALVES

MT 302 D G3/8"

K2 RCC-E

NC 

3/2
Series
231



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2005:*
  - Surge immunity test (according to EN61000-4-5):
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C without supply voltage*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, BV2 (cable Ø 8,5 to 14,5 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP65	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

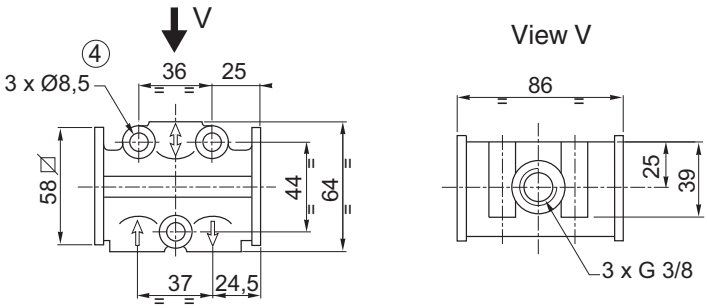
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		rated flow (ΔP 1 bar at 6,3 bar) 2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference	orientation type
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.			
3/8	9	80,6	1345	76	1270	500	3	10	**X231509984001H9**	MT302 D(1) - K2	01
									23100528.48/DC		02

(1) D = Direct supply.

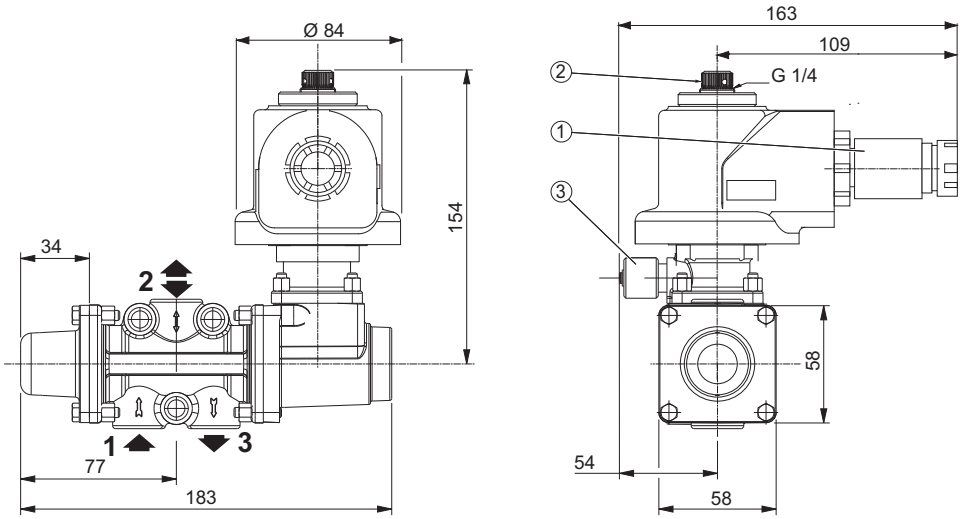
INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1

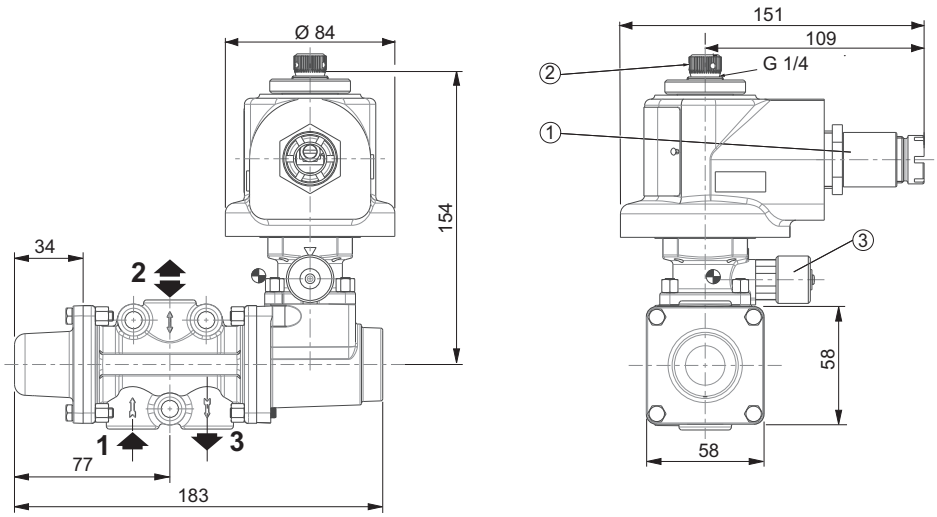
DIMENSIONS (mm), WEIGHT (kg)



TYPE 01



TYPE 02



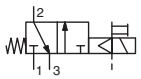
weight
5

1. Cable gland, BV2 (Ø 8,5 to 14,5 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

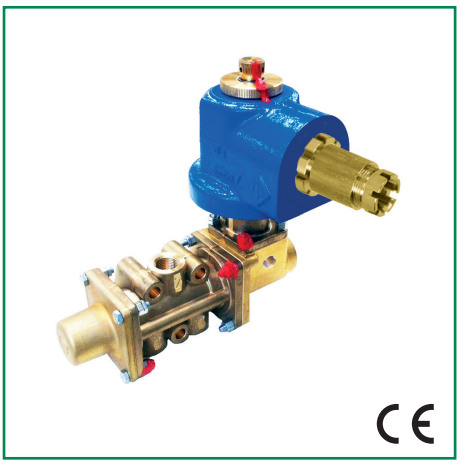
SOLENOID VALVES

MT 302 S G3/8"

K2 RCC-E

NC 

3/2
Series
231



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2005:*
  - Surge immunity test (according to EN61000-4-5):
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C without supply voltage*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, BV2 (cable Ø 8,5 to 14,5 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP65	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

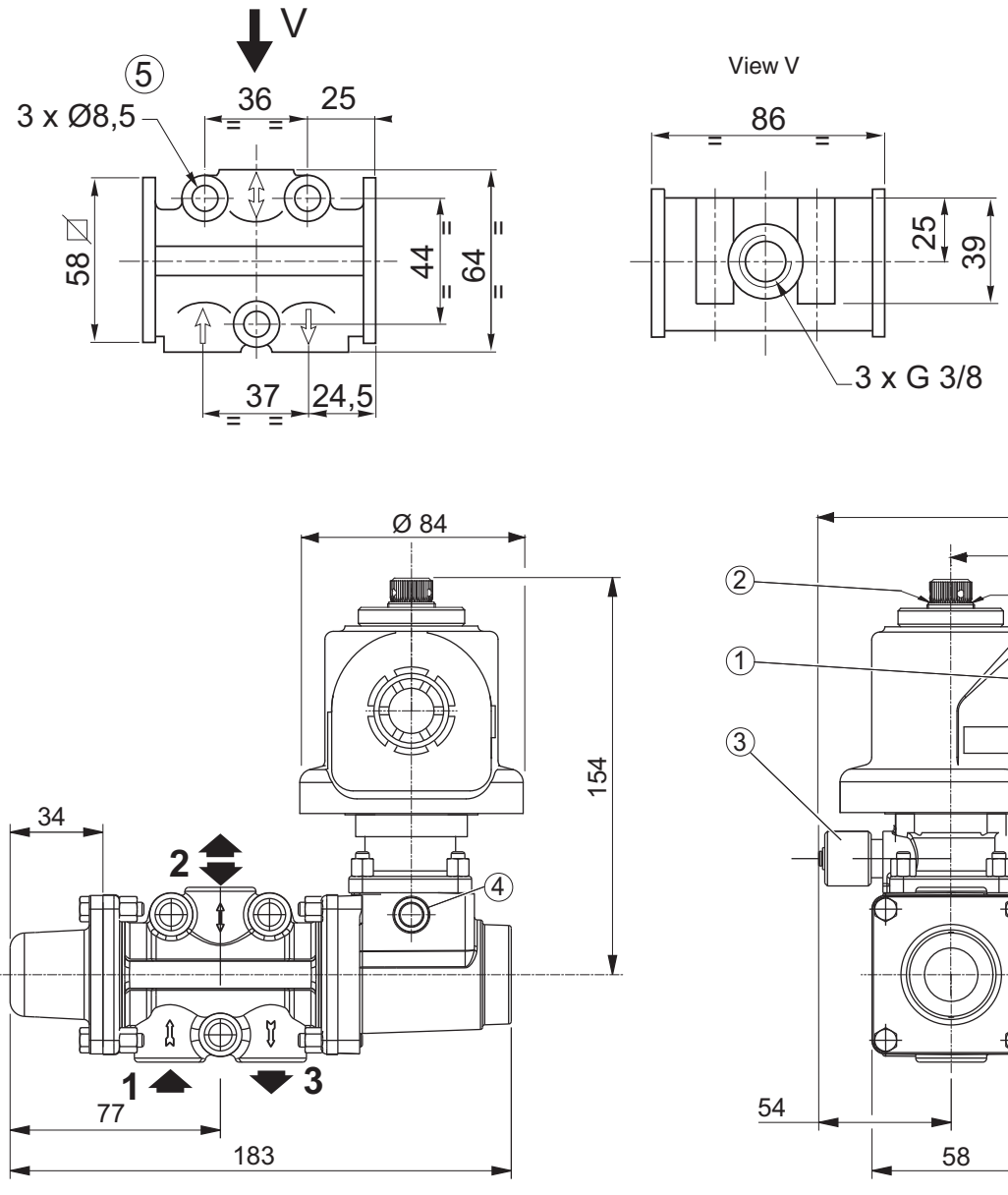
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
3/8	9	80,6	1345	76	1270	500	3	10	**X231518101001H9**	MT302 S(1) - K2

(1) External supply

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1
- Spare parts kits available: Contact us

DIMENSIONS (mm), WEIGHT (kg)



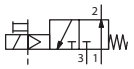
weight
4,6

1. Cable gland, BV2 (Ø 8,5 to 14,5 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 8,5 mm dia.

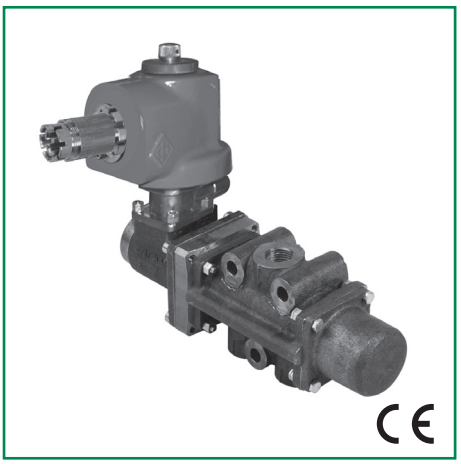
SOLENOID VALVES

MT 303 S G1/2"

K2 RCC-E

NO 

3/2
Series
231



K2

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT303 HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Radiation:* *Aging 250 Kgy at 70°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, blue decontaminable paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, BV2 (cable Ø 8,5 to 14,5 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP65	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

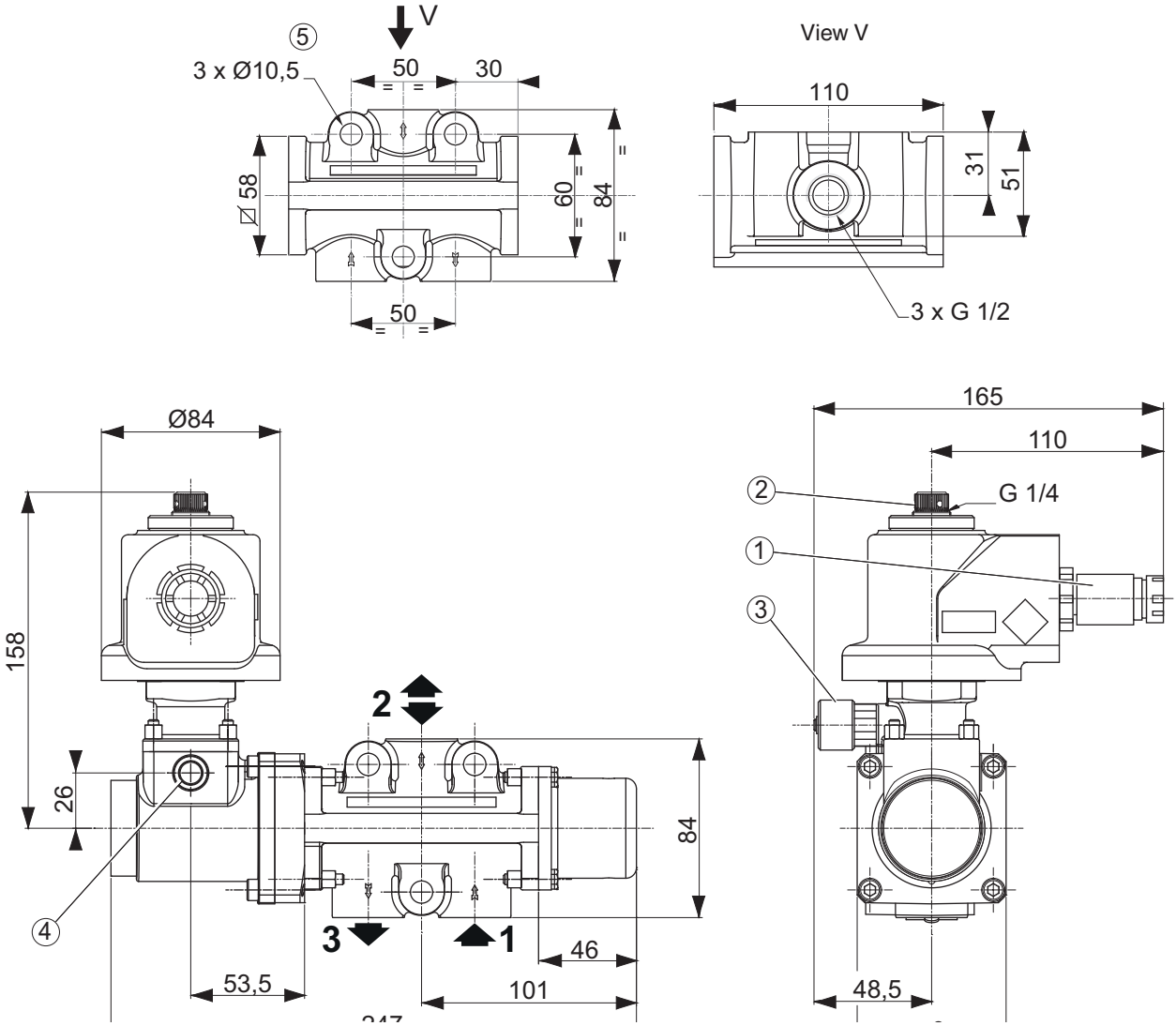
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/2	15	261	4360	172,7	2880	500	3	10	**23102059.48/DC**	MT303 S(1) - K2

(1) External supply

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



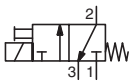
weight
6,3

1. Cable gland, BV2 (Ø 8,5 to 14,5 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 10,5 mm dia.

SOLENOID VALVES

MB 301 O 3 G1/4"

K3 RCC-E

NC 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667- ENSEIM 11042*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*

  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground

- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)

- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*

- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g

- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Cable entry Quick Disconnect Connector (QDC)

voltage	power ratings			coil insulation class	type of protection	temperature range
	inrush	holding				
(-20% +10%)	(VA)	(VA)	(W)			(C°)
230 V/50	32	20	11	H	IP54	+5 to +50

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SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G* (1)	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12102108.230/50**	MB301 O 3 - K3

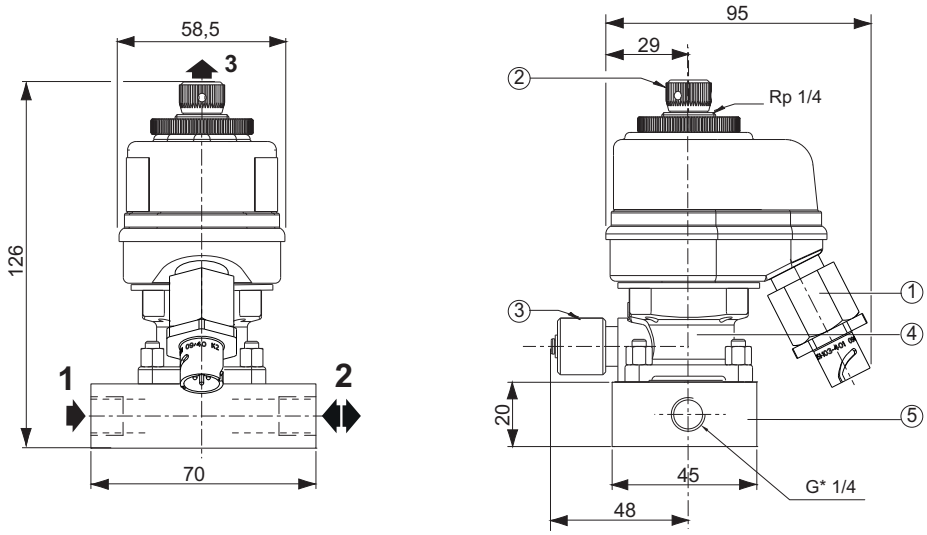
(1) Port 3: G 1/4

K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (Rp) is standard thread according to ISO 7/1
- Spare parts kits available: Contact us

DIMENSIONS (mm), WEIGHT (kg)



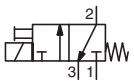
weight
1,75

1. QDC: Quick Disconnect Connector, NU25
2. 3/2 NC: exhaust protector
3. Manual operator location

SOLENOID VALVES

MB 301 O 3 G1/4"

K3 RCC-E

NC 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667- ENSEIM 11042*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*

  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground

- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)

- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*

- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g

- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Cable entry Quick Disconnect Connector (QDC)

voltage	power ratings			coil insulation class	type of protection	temperature range
	inrush	holding				
(-20% +10%)	(VA)	(VA)	(W)			(C°)
230 V/50	32	20	11	H	IP54	+5 to +50

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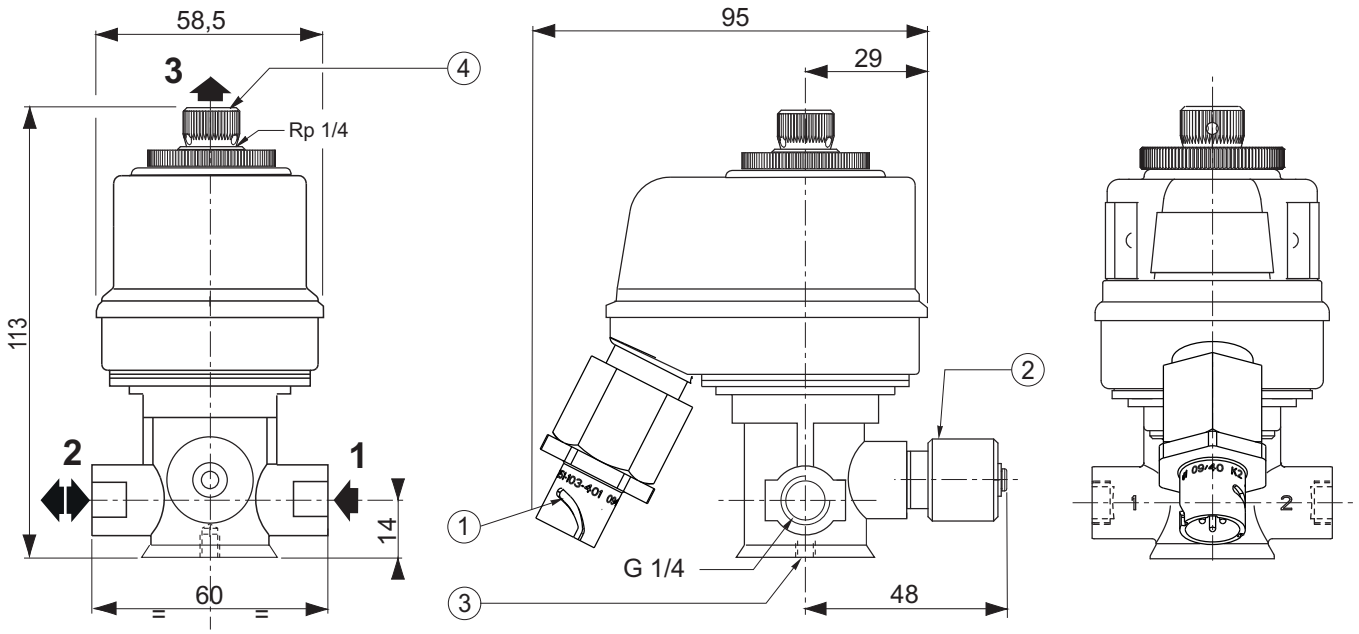
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12102109.230/50**	MB301 O 3 - K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1
- Spare parts kits available: Contact us

DIMENSIONS (mm), WEIGHT (kg)



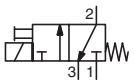
weight
1

(1) QDC: Quick Disconnect Connector, NU25
(2) Manual operator location
(3) Mounting hole M5, depth 7 mm
(4) 2/2 NC: exhaust protector

SOLENOID VALVES

MB 301 O 3 G1/4"

K3 RCC-E

NC 

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667 - ENSEIM 11042*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Cable entry Quick Disconnect Connector (QDC)

voltage	power ratings			coil insulation class	type of protection	temperature range
	inrush	holding				
(-20% +10%)	(VA)	(VA)	(W)			(C°)
230 V/50	32	20	11	H	IP54	+5 to +50

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SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G* (1)	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12102120.230/50**	MB301 O 3 - K3

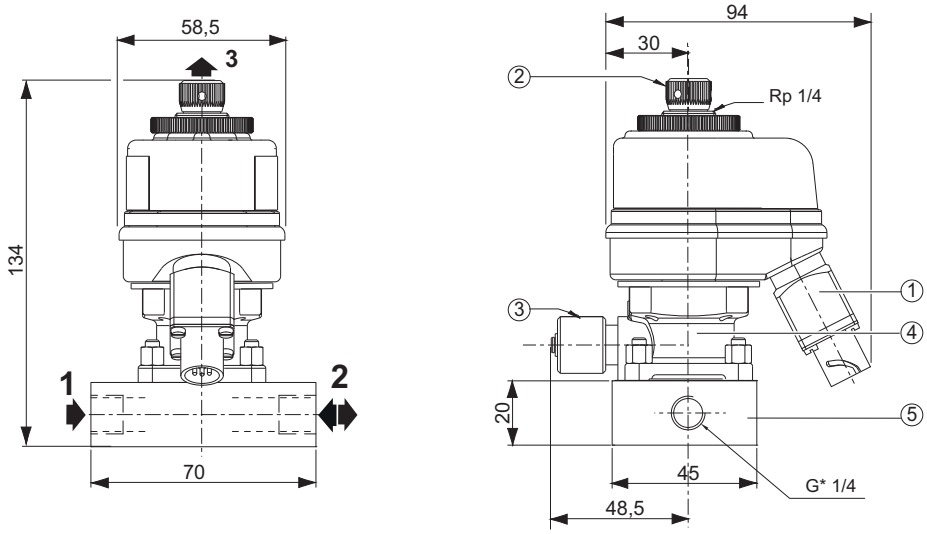
(1) Port 3: G 1/4

K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (Rp) is standard thread according to ISO 7/1
- Spare parts kits available: Contact us

DIMENSIONS (mm), WEIGHT (kg)



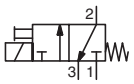
weight
1,75

1. QDC: Quick Disconnect Connector, 8N45S
2. 3/2 NC: exhaust protector
3. Manual operator location

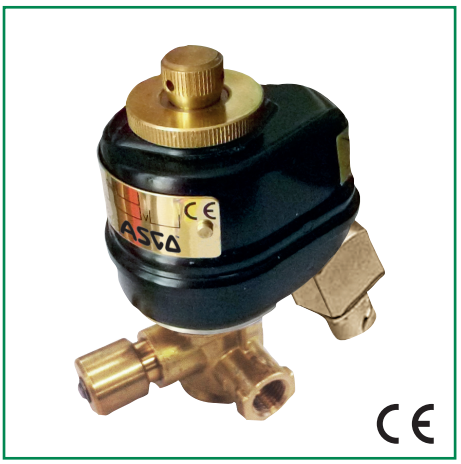
SOLENOID VALVES

MB 301 O 3 G1/4"

K3 RCC-E

NC 

3/2 Series 121



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667- ENSEIM 11042*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*

  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground

- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)

- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*

- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g

- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Cable entry Quick Disconnect Connector (QDC)

voltage	power ratings			coil insulation class	type of protection	temperature range
	inrush	holding				
(-20% +10%)	(VA)	(VA)	(W)			(C°)
230 V/50	32	20	11	H	IP54	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

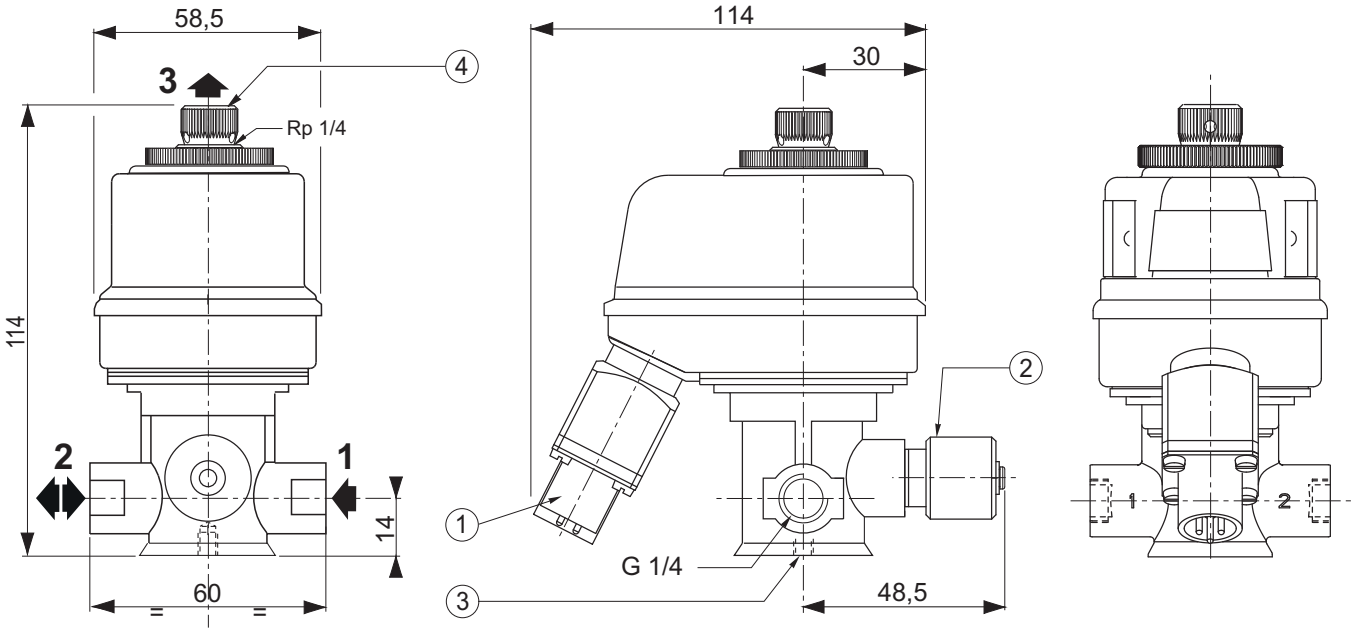
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12102122.230/50**	MB301 O 3 - K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1
- Spare parts kits available: Contact us

DIMENSIONS (mm), WEIGHT (kg)



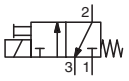
weight
1

(1) QDC: Screw connector, 8N45S
(2) Manual operator location
(3) Mounting hole M5, depth 7 mm
(4) 3/2 NC: exhaust protector

SOLENOID VALVES

V301 O 5 Rp1/4"

K3 RCC-E

NC 

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E*
  Test report: *ELEEL 130821*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*

  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground

- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)

- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*

- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g

- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

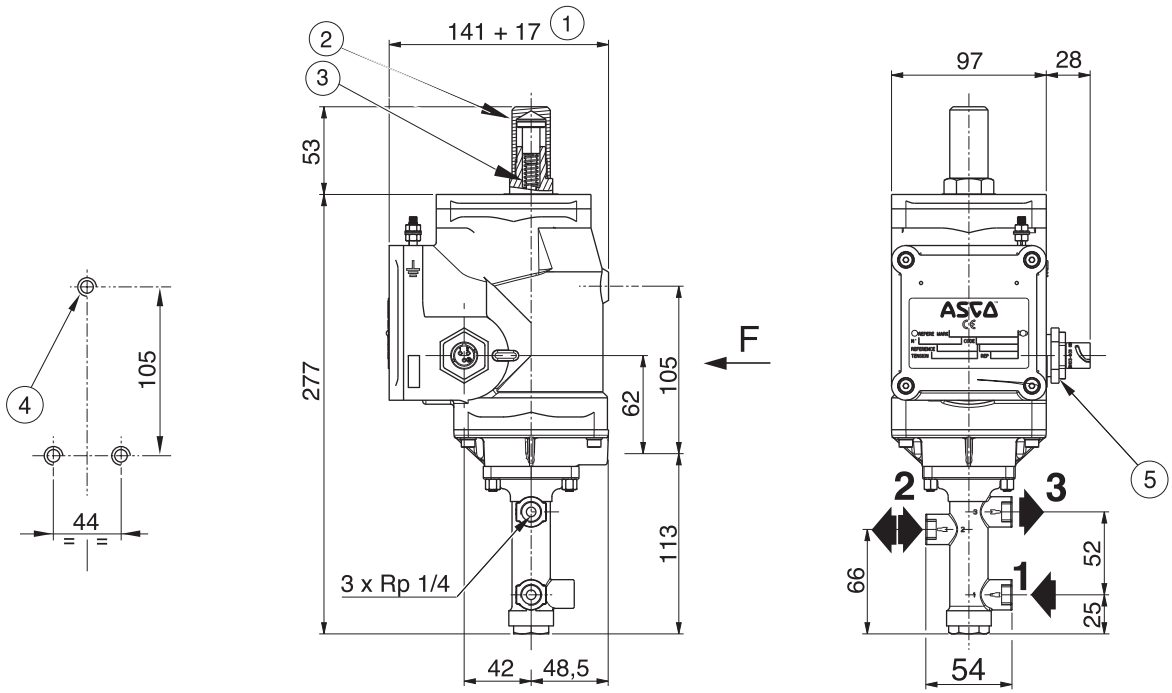
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**13102143.48/DC**	V301 O 5 - K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



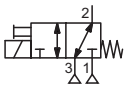
weight
7,9

1. Dimension to be added to allow for removalr
2. Cover for manual operator
3. Manual operator location
4. 3 mounting holes M6, depth 9 mm
5. QDC: Quick Disconnect Connector, NU25

SOLENOID VALVES

V301 O 5 2I1O Rp1/4"

K3 RCC-E

NC 

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699 + ASCO argut file 434683*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	39	44	H	IP65	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

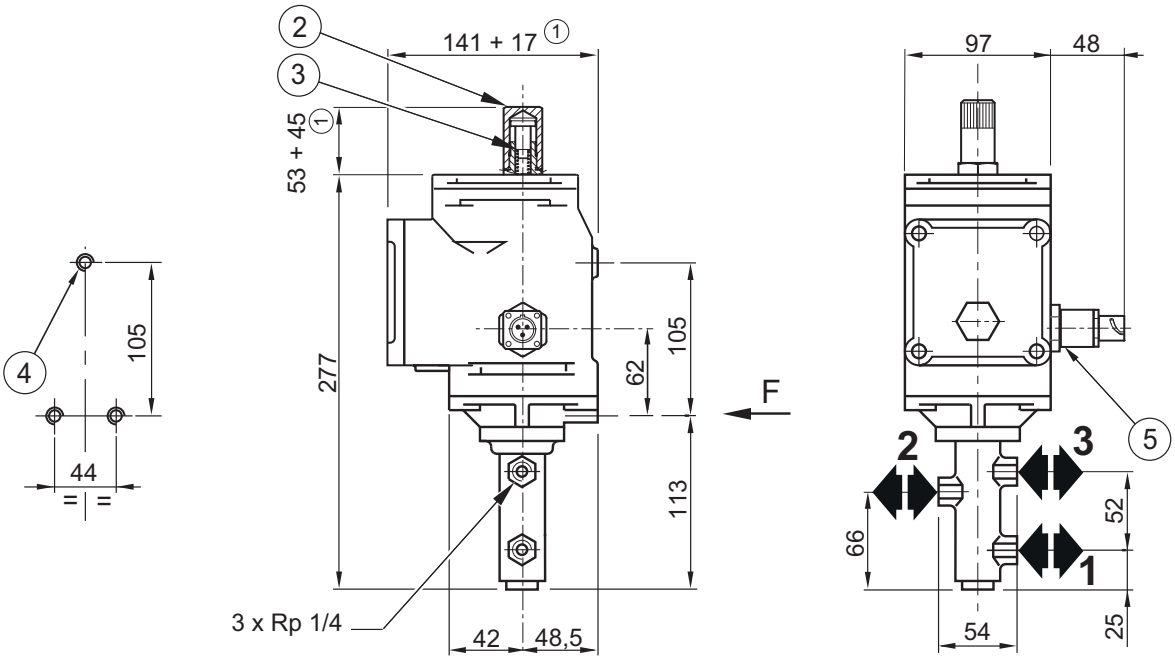
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**X131434582001J1**	V301 O 5 2I1O.48/DC - K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



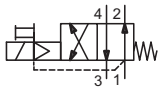
weight
7,9

① Dimension to be added to allow for removalr
② Cover for manual operator
③ Manual operator location
④ 3 mounting holes M6, depth 9 mm
⑤ QDC: Quick Disconnect Connector, 8N45S

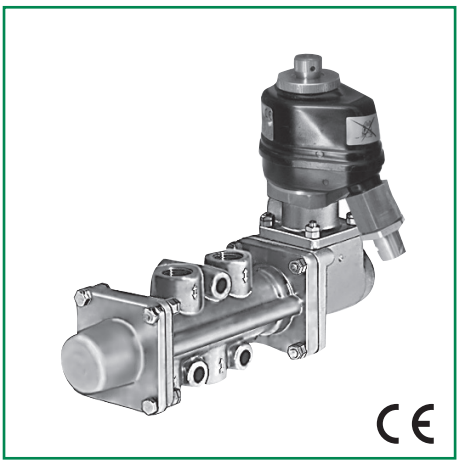
SOLENOID VALVES

MT402 D G3/8"

K3 RCC-E



4/2
Series
232



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E*
  Test report: *ELEEL 130821*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	13	11	H	IP54	+5 to +50

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SPECIFICATIONS

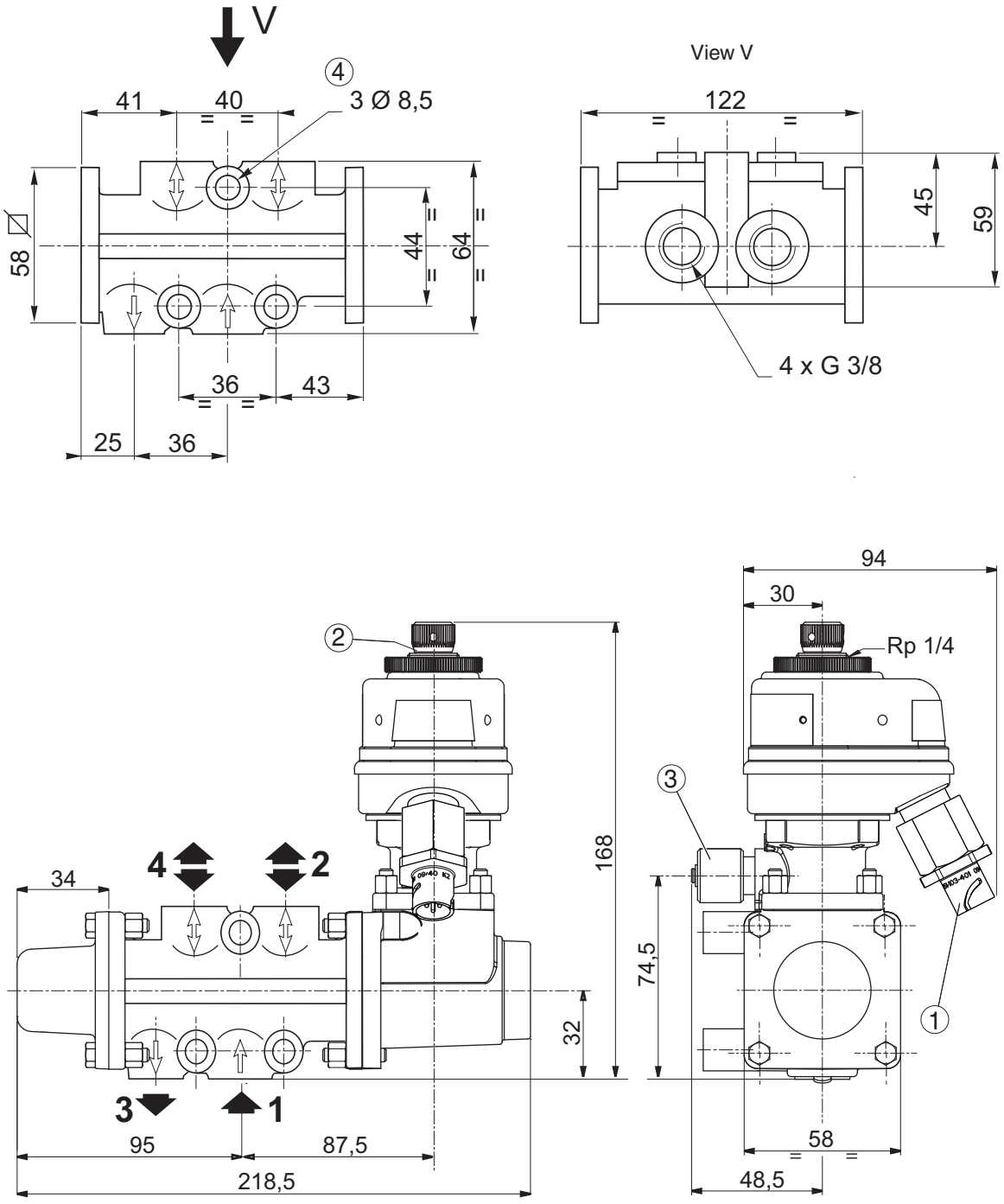
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m^3/h) 1→2 1→4	(m^3/h) 1→2	(m^3/h) 2→3	(l/min) 1→2 1→4	(l/min) 1→2	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
3/8	9	84,4	61,6	80,7	1400	1030	1345	500	3	10	**23202058.48/DC**	MT402 D(1) - K3

(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



weight
4

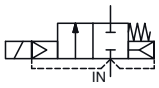
1. QDC: Quick Disconnect Connector, NU25
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

type X210 - 1/2 ANPT

K3 RCC-E

NC



2/2
Series
X210

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E 2012 + Procedure 503880*
  Test report: *507450 + 507885*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 32 years at 30°C*
  Functional +3°C to +50°C
  Extreme +3°C to +50°C
- *Functional:* *15 000 cycles ON-OFF at +50°C (fluid tap water exempt of particle bigger than 0,1 mm)*
- *Seismic:* *Vibration aging 1g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Tap water*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Stainless steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals FPM (fluoroelastomer)

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Electrical entry Quick Disconnect Connector (QDC)
Standard voltages AC (~): 230V/50 Hz

voltage	power ratings			coil insulation class	type of protection	temperature range
	inrush ~	holding ~				
Un +10/-20%	(VA)	(VA)	(W)			(C°)
230AC/50Hz	73	29,6	13,5	HT	IP55	3 to +50

SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number
ANPT	(mm)	(m^3/h)	(l/min)	(s)	min.	max.	
1/2	19	3,43	57,2	1,5	2,5	15	**X210504405001H8.230/50**
							X210502702001H8.230/50

K3

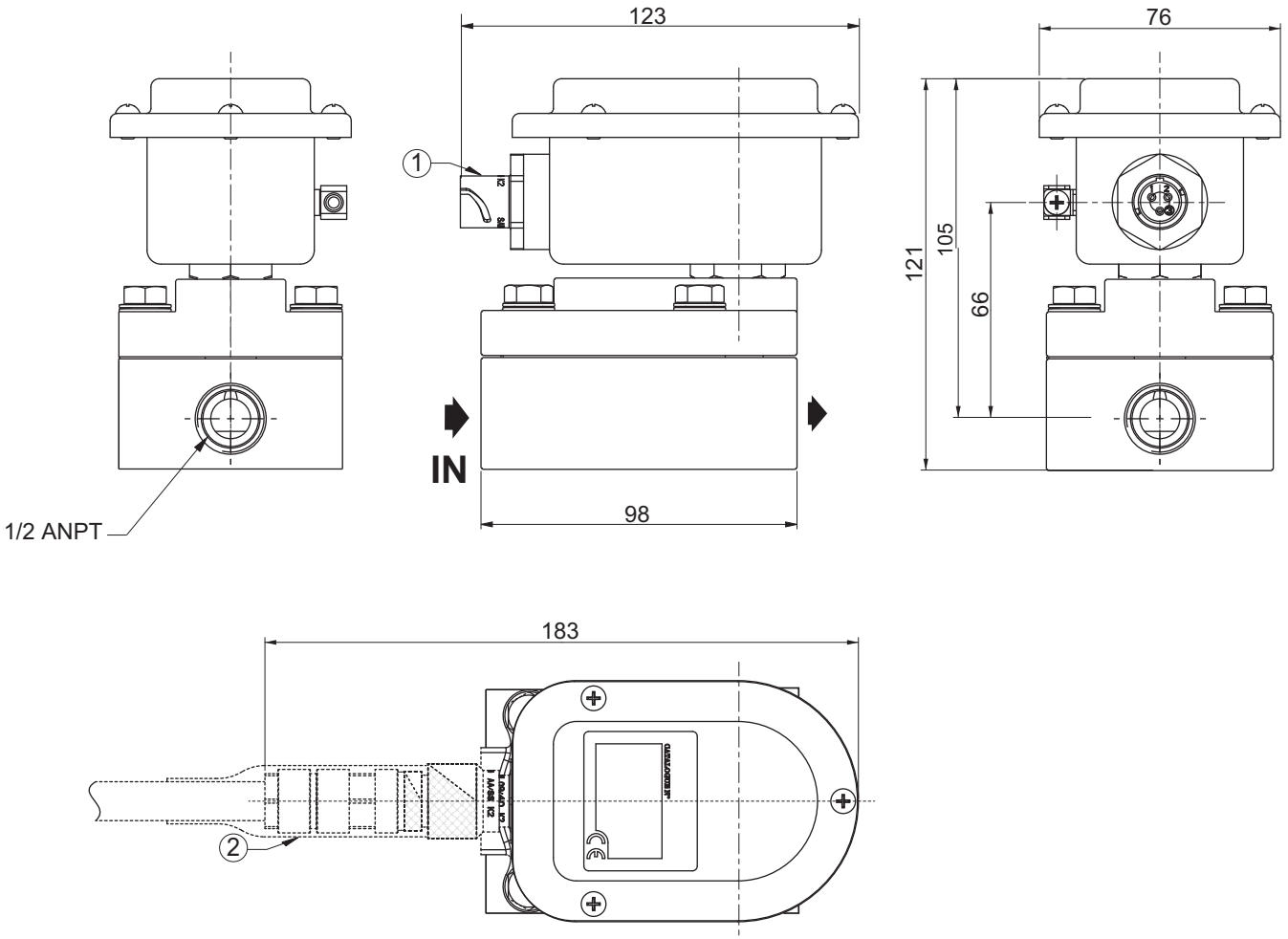
OPTION

- Electrical connection: Mobile Quick Disconnect Connector (**88200072**)

INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation
- Pipe connection identifier is X = ANPT (ANSI/ASME B1.20.1)
- Spare parts kits available: contact us

DIMENSIONS (mm), WEIGHT (kg)



weight
3,2

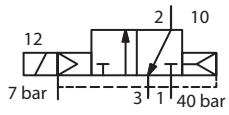
1. QDC: Quick Disconnect Connector
2. Mobile Quick Disconnect Connector

SOLENOID VALVES

Type X288 - G1"

K3 RCC-E

NC



3/2
Series
X288

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E 2012 -+ 503936*
  Test report: *CSR-000602E0013*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 20 years at 23°C*
  Variations: Cycles of 5°C to 50°C at 1°C/min
- *Functional:* *10 000 cycles ON-OFF*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

GENERAL

Differential pressure	0 to 40 bar [1bar = 100 kPa]
Piloting pressure	7 - 10 bar
Maximum allowable pressure	60 bar
Fluid controlled	Air, filtered

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing	Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body	Brass
Core tube	Stainless steel
Internal parts	Stainless steel
Seals	VAMAC®
Distributor body	Brass
Internal parts	Stainless steel, brass
Distributor seals	NBR, PUR, TPE-E
Exhaust protector	Brass, galvanized steel

ELECTRICAL CHARACTERISTICS

Electrical safety	IEC 335
Electrical entry	Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

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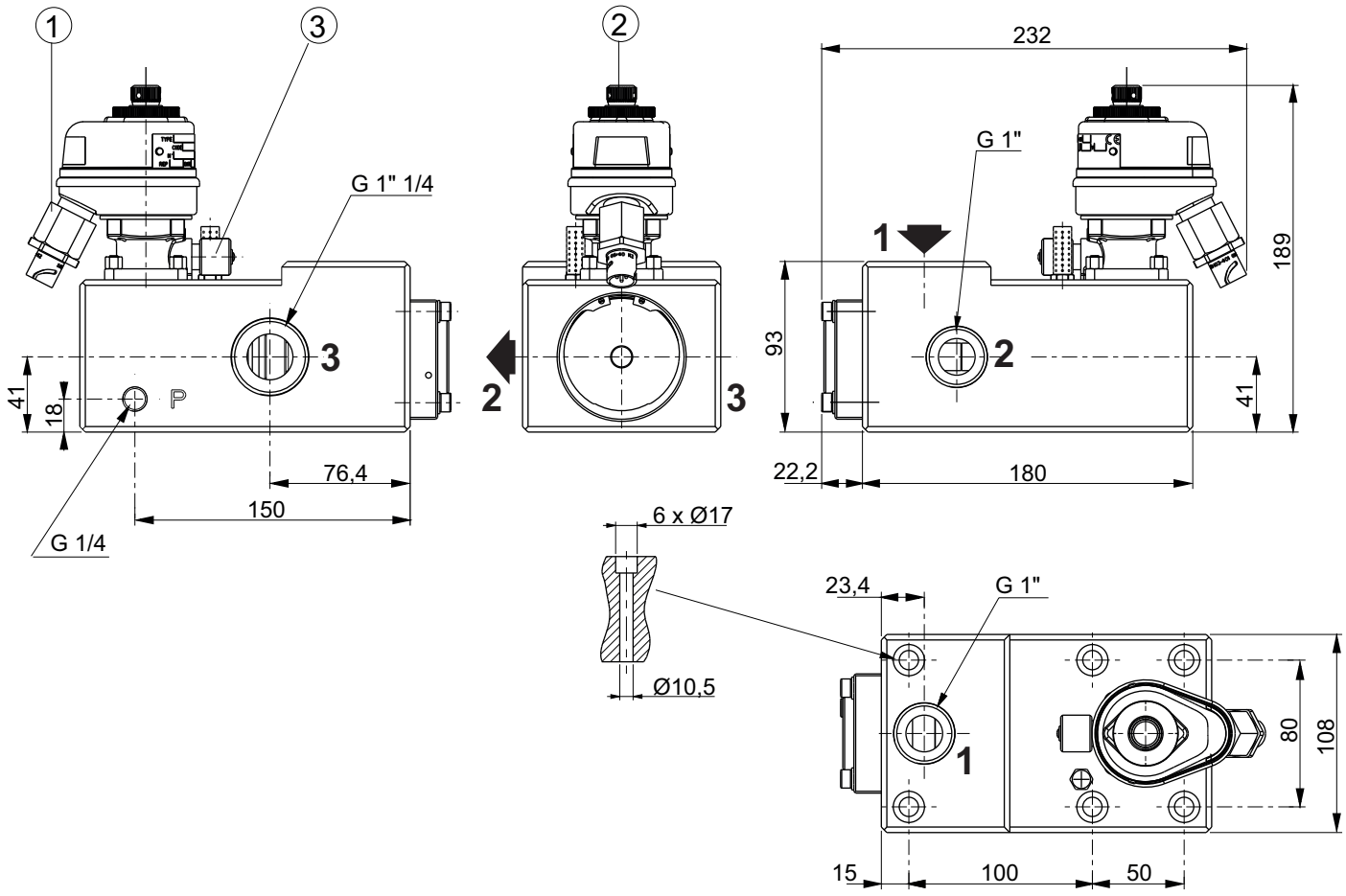
SPECIFICATIONS

pipe size G ports 1 & 2	pipe size G port 3	orifice size (mm)	rated flow (ΔP 1 bar at 6,3 bar) (l/min) 1→2	rated flow (ΔP 1 bar at 6,3 bar) (l/min) 2→3	response time (max.) at 17,5 bar (ms)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number
1	1 1/4	20	12 000	10 000	130	0	40	**X288501748002H9.48/DC**
								X288501748003J1.125/DC

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



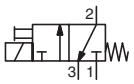
weight
13,5

① QDC: Quick Disconnect Connector, NU25
② 3/2 NC: exhaust protector
③ Manual operator location

SOLENOID VALVES

MB 301 O 3 G1/4"

K3 RCC-E

NC 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, , CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50

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SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G* (1)	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12101351.48/DC**	MB301 O 3 - K3

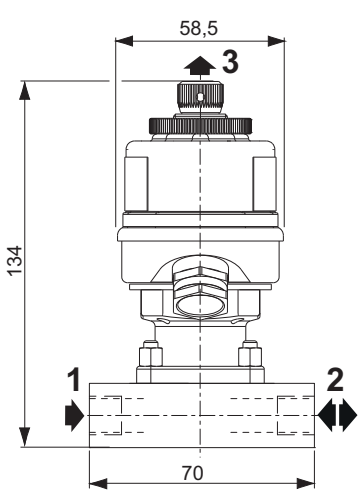
(1) Port 3: G 1/4

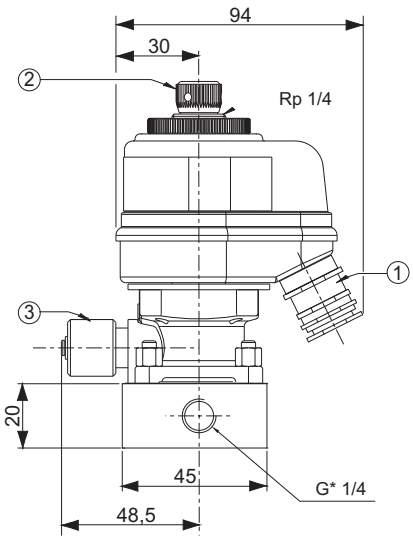
K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)





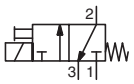
weight
1,75

(1) Cable entry, CM12 (cable Ø 8,5-13 mm)
(2) 3/2 NC: exhaust protector
(3) Manual operator location

SOLENOID VALVES

MB301 O 3 G1/4"

K3 RCC-E

NC 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50

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SPECIFICATIONS

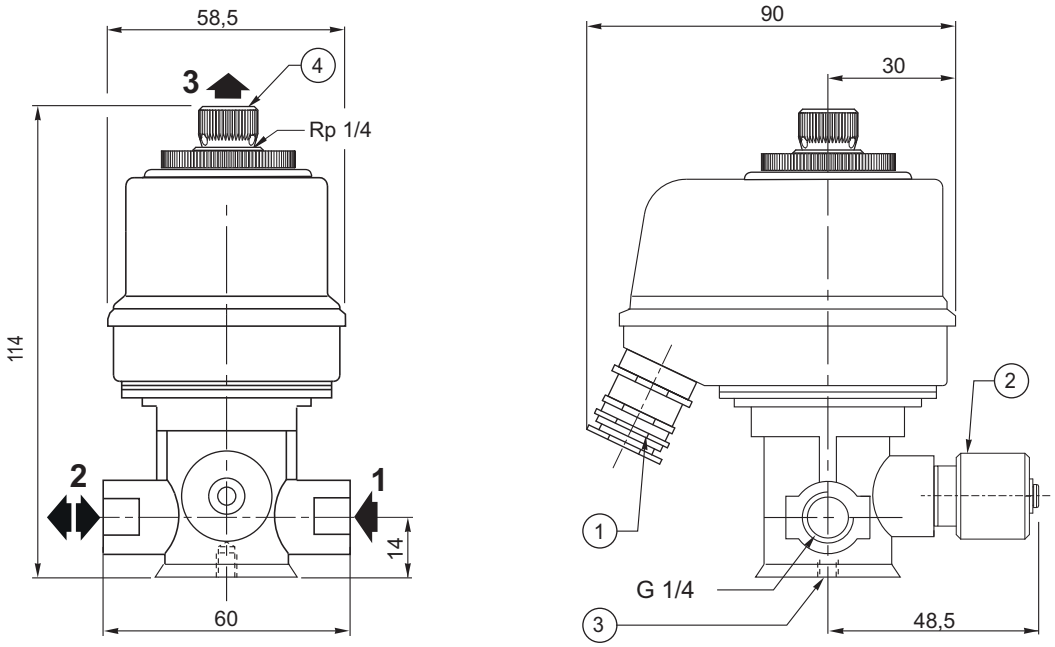
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G* (1)	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12102099.48/DC**	MB301 O 3 - K3

K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Pipe connections (Rp) have standard thread according to ISO 7/1. Pipe connections (G) have standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



weight
1

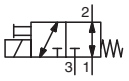
1. Cable entry, CM12 (cable Ø 8,5-13 mm)
2. Manual operator location
3. Mounting hole M5, depth 7 mm
4. 3/2 NC: exhaust protector

SOLENOID VALVES

V 301 U 4 Rp1/4"

K3 RCC-E

U



3/2
Series
131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50

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SPECIFICATIONS

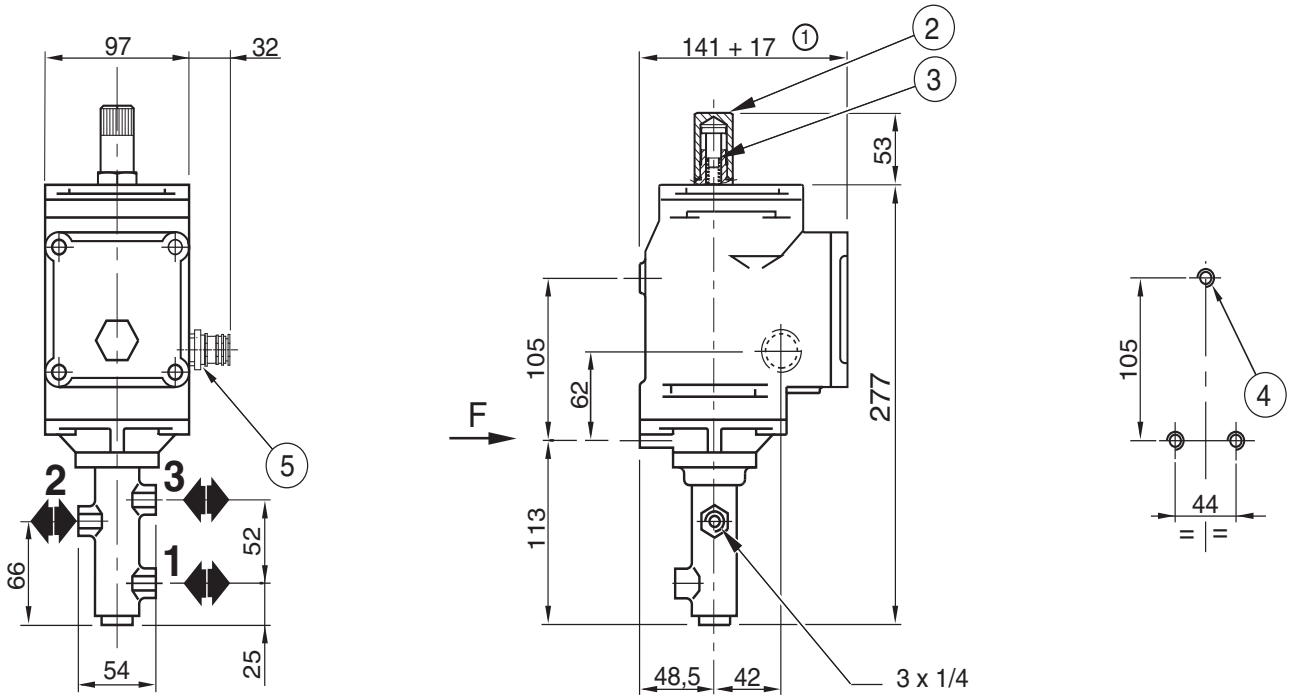
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	4	19,2	320	500	0	8	**13101420.48/DC**	V301 U 4 - K3

K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1
- Spare parts kits available:
  - Coil/diode: contact us
  - Complete body item: contact us

DIMENSIONS (mm), WEIGHT (kg)



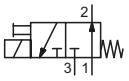
type	weight
01	7,9

1. Dimension to be added to allow for removal
2. Cover for manual operator
3. Manual operator location
4. 3 mounting holes M6, depth 9 mm
5. Cable entry, CM12 (Ø 8,5-13 mm)

SOLENOID VALVES

V301 F 5 Rp1/4"

K3 RCC-E

NO 

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*

  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground

- *Ambient temperature:*
  Aging 40 years at 23°C
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)

- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*

- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g

- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

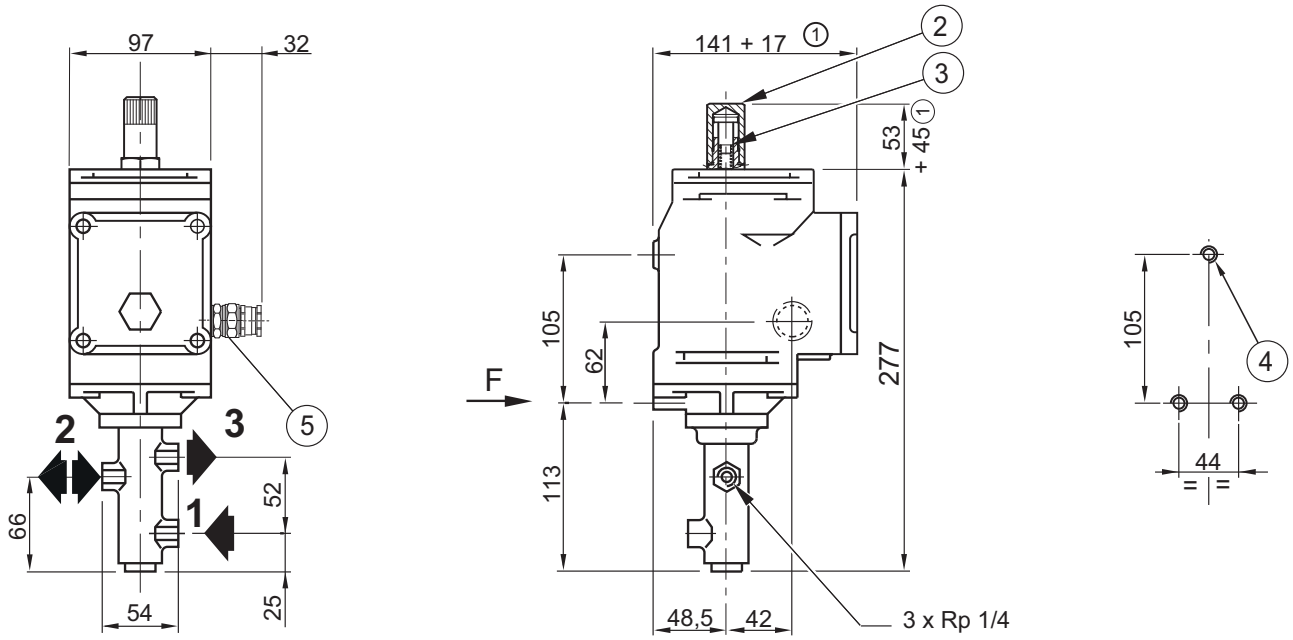
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**X131507759001H9**	V301 F 5 48/DC- K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



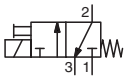
weight
7,9

1. Dimension to be added to allow for removalr
2. Cover for manual operator
3. Manual operator location
4. 3 mounting holes M6, depth 9 mm
5. Cable entry, CM12 (cable Ø 8,5-13 mm)

SOLENOID VALVES

V301 O 5 Rp1/4"

K3 RCC-E

NC 

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001-2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, , CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

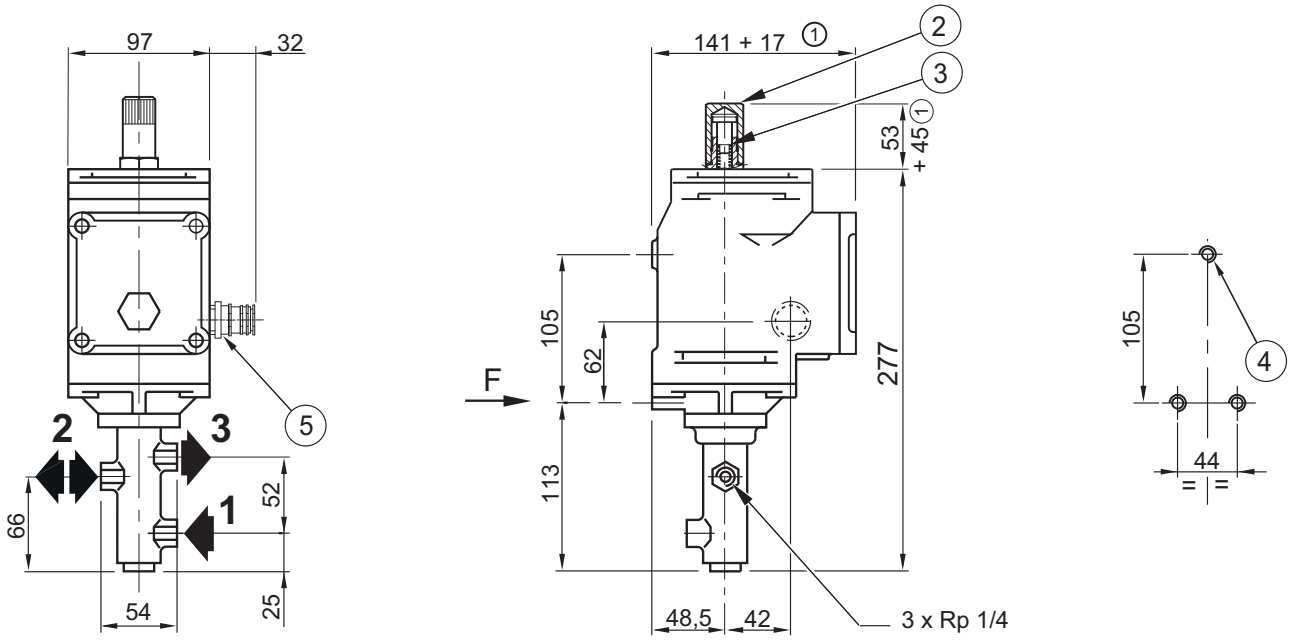
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**13101388.48/DC**	V301 O 5 - K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



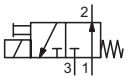
weight
7,9

① Dimension to be added to allow for removalr
② Cover for manual operator
③ Manual operator location
④ 3 mounting holes M6, depth 9 mm
⑤ Cable entry, CM12 (cable Ø 8,5-13 mm)

SOLENOID VALVES

V301 F 6 Rp1/4"

K3 RCC-E

NO 

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699 + ASCO argut file 504259*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*

  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground

- *Ambient temperature:*
  Aging 40 years at 23°C
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)

- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*

- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g

- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

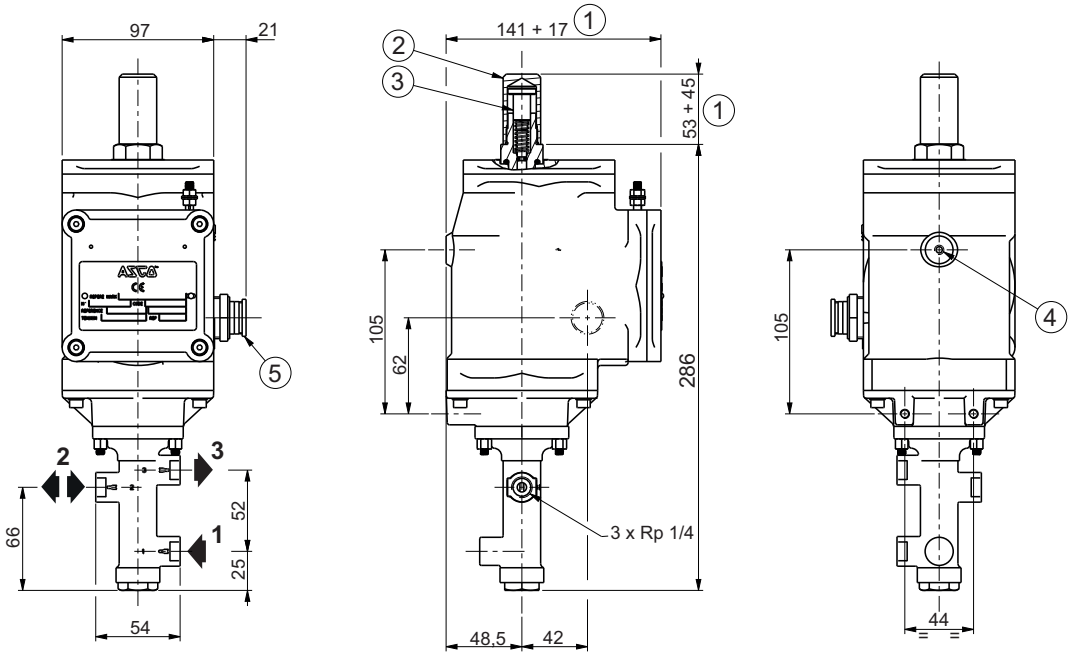
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	6	33	550	500	0	8	**X131514265001H9**	V301 F 6 48/DC- K3

K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



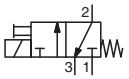
weight
7,9

1. Dimension to be added to allow for removalr
2. Cover for manual operator
3. Manual operator location
4. 3 mounting holes M6, depth 9 mm
5. Cable entry, CM12 (cable Ø 8,5-13 mm)

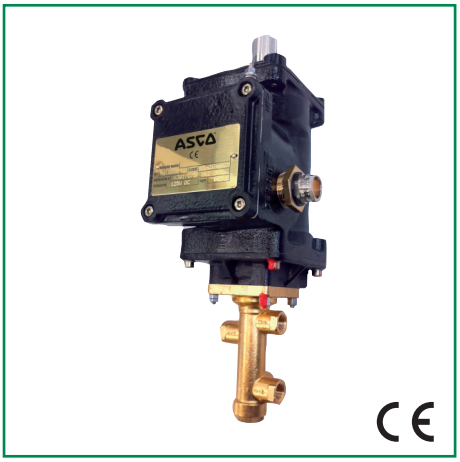
SOLENOID VALVES

V301 O 6 Rp1/4"

K3 RCC-E

NC 

3/2 Series 131



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*

  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground

- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)

- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Cast iron, steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	32	36	H	IP65	+5 to +50

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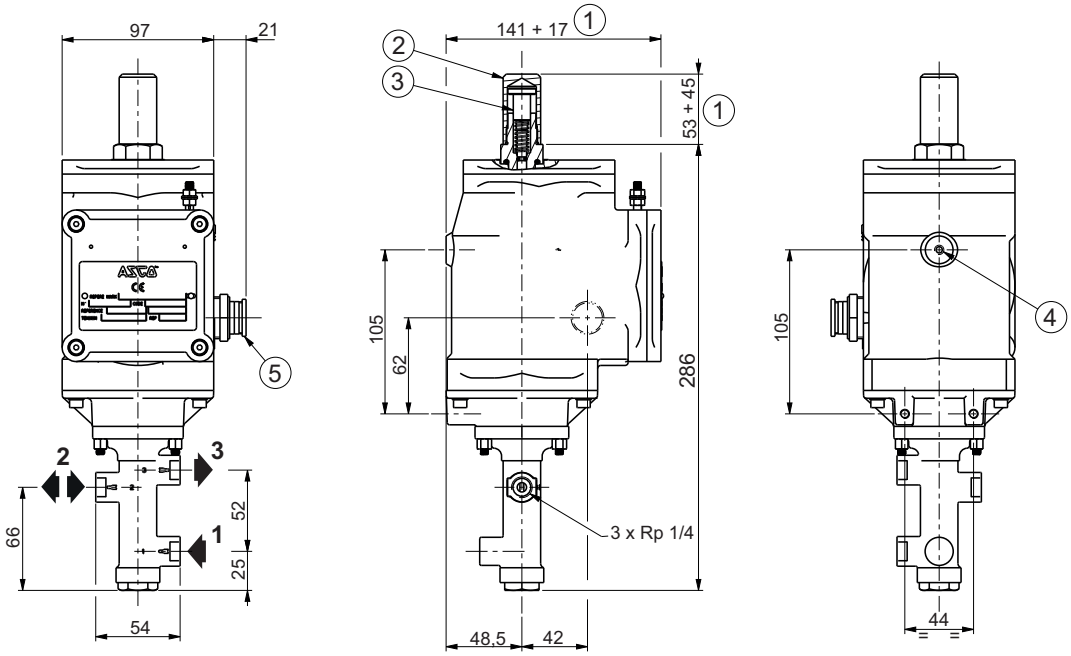
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	6	36	600	500	0	8	**13101372.48/DC**	V301 O 6 48/DC- K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



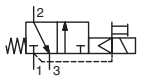
weight
7,9

1. Dimension to be added to allow for removalr
2. Cover for manual operator
3. Manual operator location
4. 3 mounting holes M6, depth 9 mm
5. Cable entry, CM12 (cable Ø 8,5-13 mm)

SOLENOID VALVES

MT302 D G3/8"

K3 RCC-E

NC 

3/2
Series
231

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50
125 VDC	14	16			

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SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		rated flow (ΔP 1 bar at 6,3 bar) 2→3		response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference	orientation type
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.			
3/8	9	80,6	1345	76	1270	500	3	10	**23100527.48/DC**	MT302 D(1).48/DC - K3	01
									X231504443001H9		02

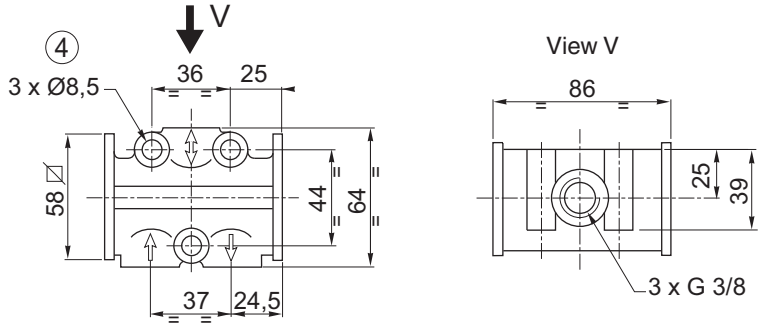
(1) D = Direct supply.

K3

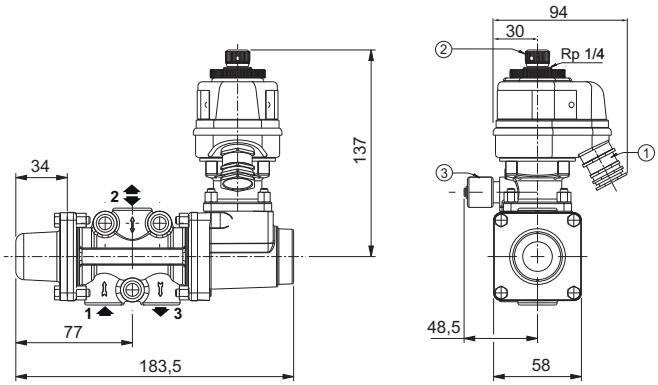
INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

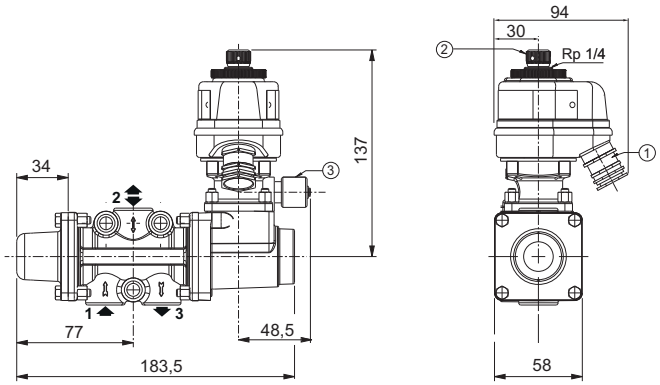
DIMENSIONS (mm), WEIGHT (kg)



TYPE 01



TYPE 02



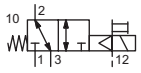
type	weight
01 / 02	2,7

1. Cable entry, CM12 (cable Ø 8,5-13 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

MT302 S G3/8"

K3 RCC-E

NC 

3/2
Series
231

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT302 - HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, , CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference (1)
G	(mm)	(m³/h)	(l/min)	(m³/h)	(l/min)	(ms)	min.	max.		
3/8	9	80,6	1345	76	1270	500	3	10	**X231504444001H9**	MT302 S.48/DC - K3

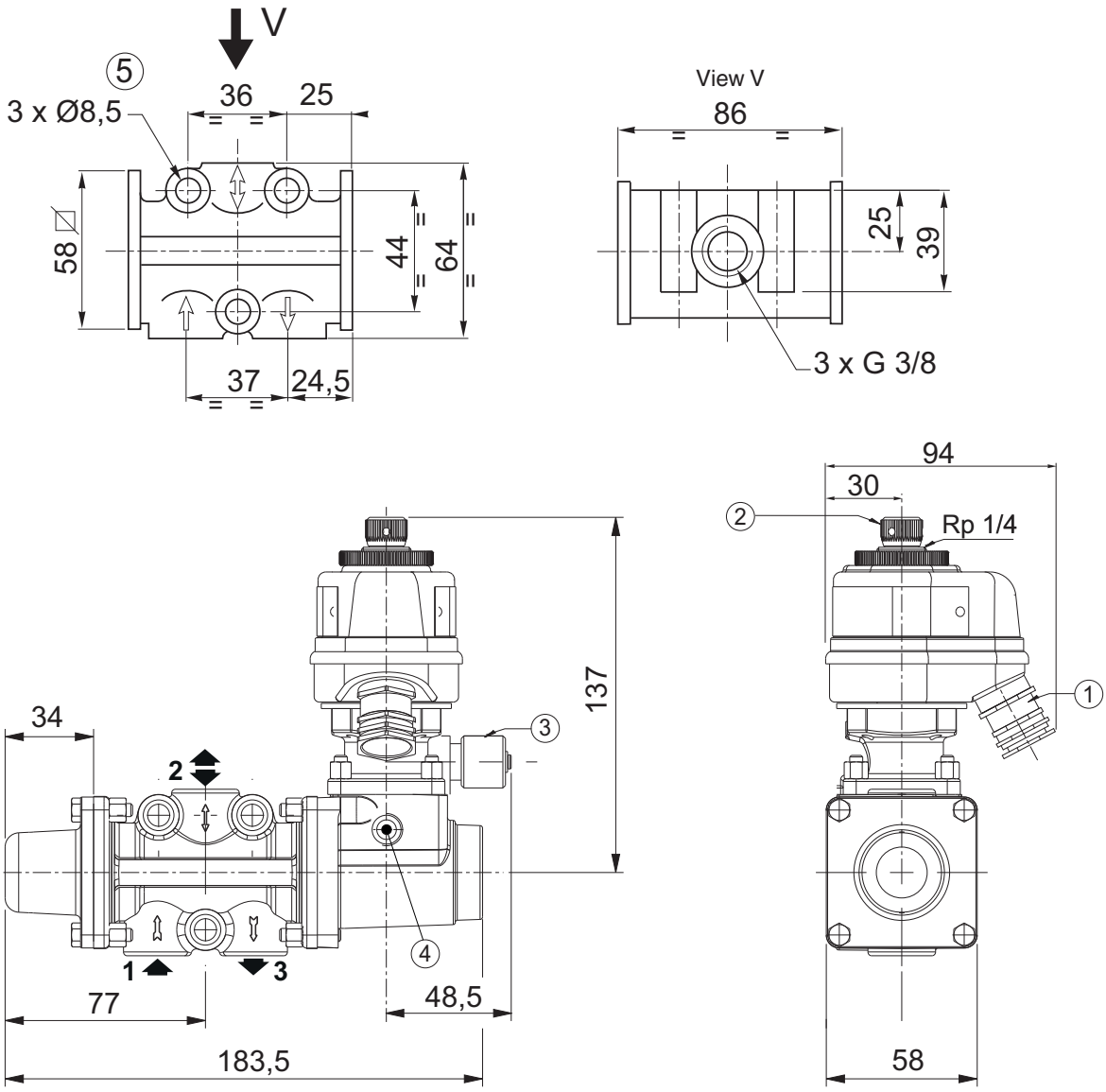
(1) S = External supply

K3

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



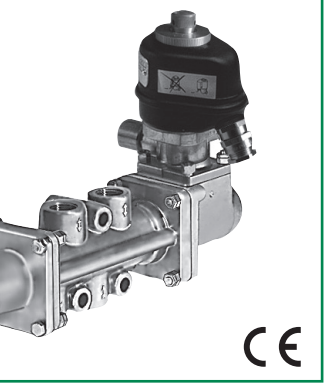
weight
2,7

1. Cable entry, CM12 (cable Ø 8,5-13 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. G 1/4 for external pilot supply
5. 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

MT402 D G3/8"

K3 RCC-E



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MT402 - HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, , CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

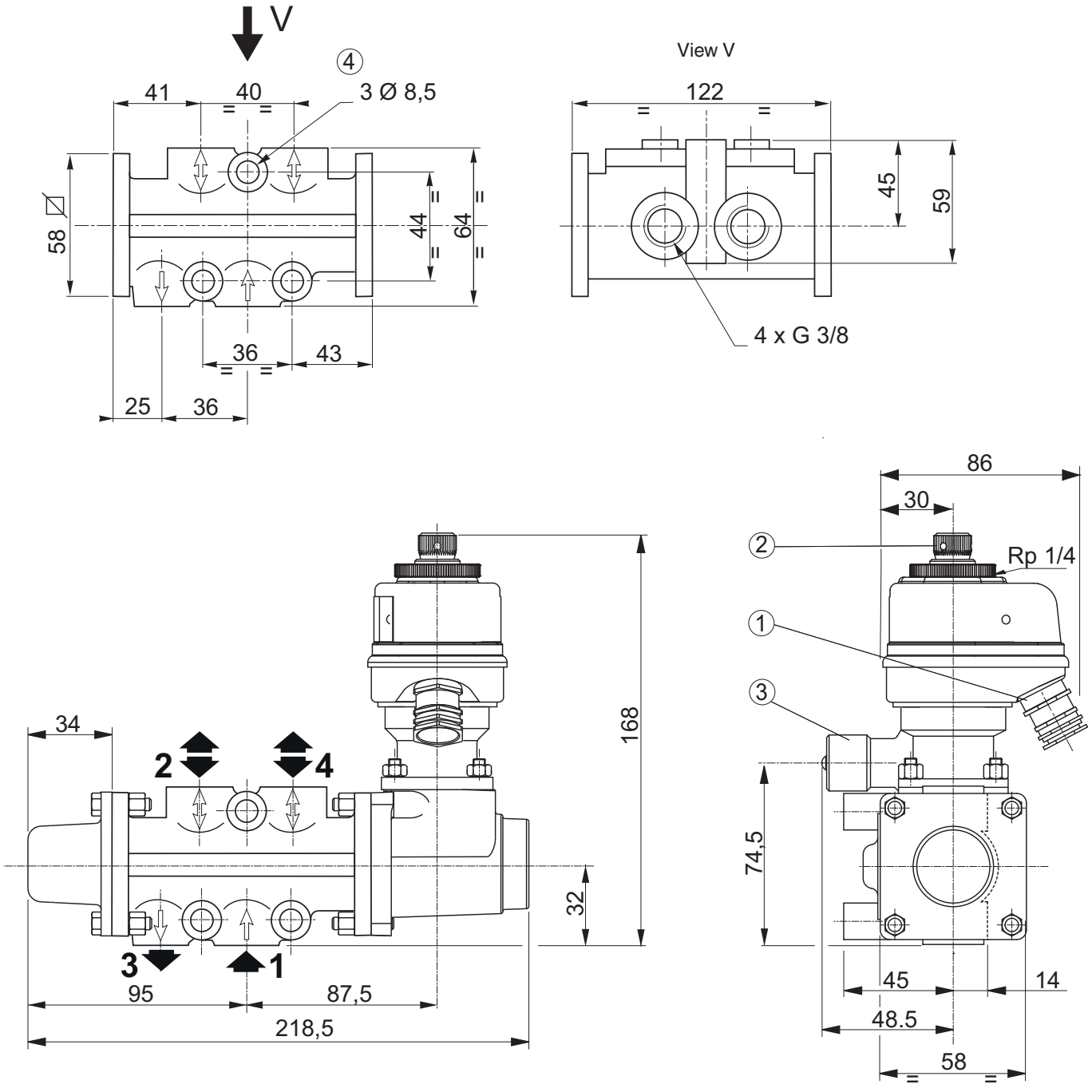
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) (m³/h) 1→2 1→4	(m³/h) 1→2	(m³/h) 2→3	(l/min) 1→2 1→4	(l/min) 1→2	(l/min) 2→3	response time (max.)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number	reference
G	(mm)							(ms)				
3/8	9	84,4	61,6	80,7	1400	1030	1345	500	3	10	**23202042.48/DC**	MT402 D(1) - K3

(1) D = Direct supply.

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



weight
4

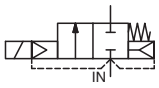
1. Cable entry, CM12 (cable Ø 8,5-13 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

type X210 - 1/2 ANPT

K3 RCC-E

NC



2/2
Series
X210

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E 2012 + Procedure 503880*
  Reference File: *507757*
  Quality assurance: *NF EN ISO 9001 v2008*
  SGAQ DIN/DPN/DNC no. 2013-03 EDF

- *EMC:* *Surge immunity test: according to EN61000-4-5*
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave according to EN61000-4-18: level 2
  100 KHz, 1 MHz, 3 MHz, 10 MHz, 30 MHz
  0,5kV Phase to Phase - 1kV Phase to Ground

- *Ambient temperature:* *Aging 32 years at 30°C*
  Functional +3°C to +50°C
  Extreme +3°C to +50°C

- *Functional:* *15 000 cycles ON-OFF at +50°C (fluid tap water exempt of particle bigger than 0,1 mm)*

- *Seismic:* *Vibration aging 1g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g

- *Fluid:* *Tap water*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Stainless steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals FPM (fluoroelastomer)

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Electrical entry Cable gland, , CM12 (cable Ø 8,5-13 mm)
Standard voltages AC (~): 230V/50 Hz

voltage	power ratings			coil insulation class	type of protection	temperature range
	inrush ~	holding ~				
Un +10/-20%	(VA)	(VA)	(W)			(C°)
230AC/50Hz	73	29,6	13,5	HT	IP55	+3 to +50

SPECIFICATIONS

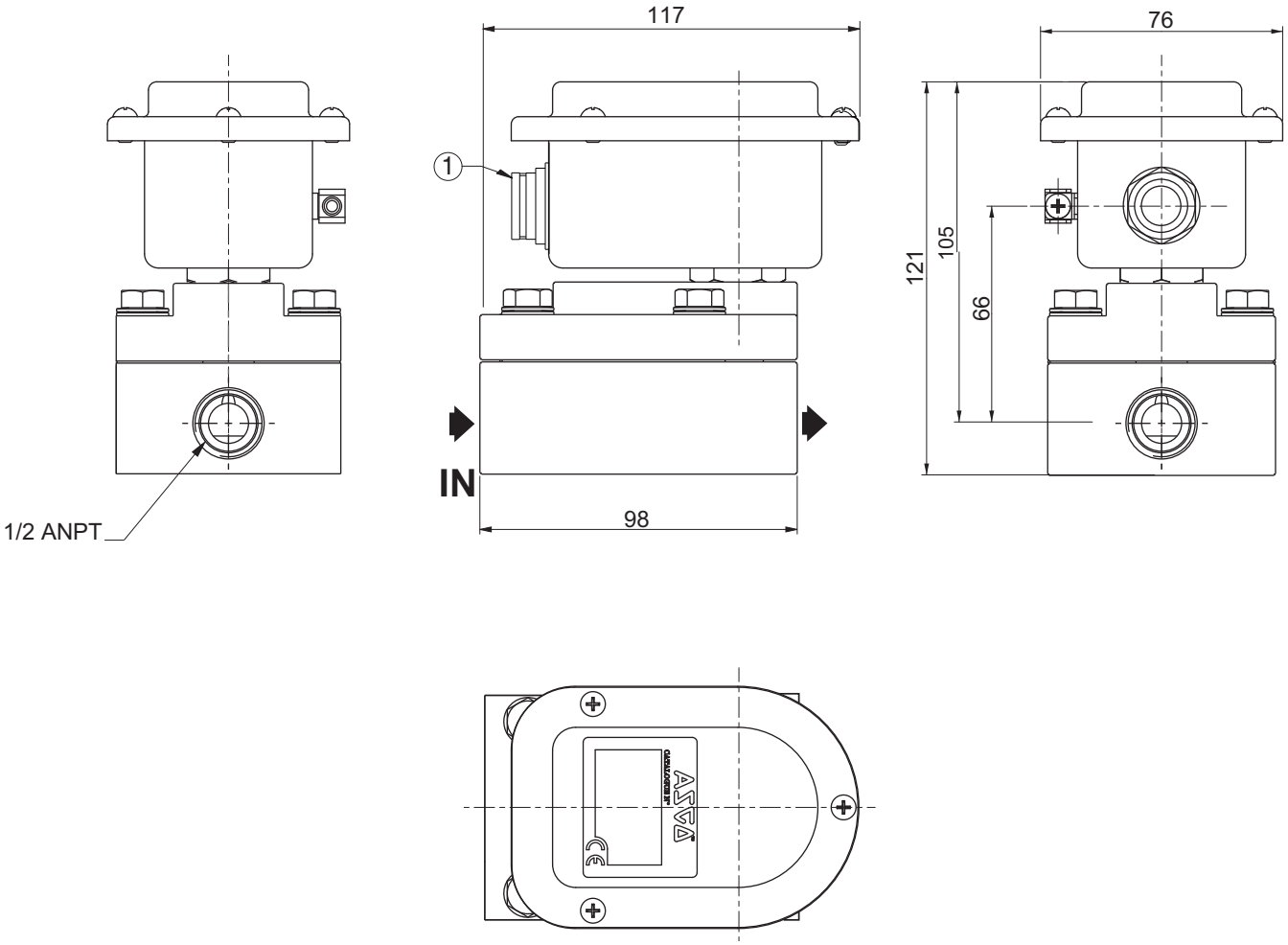
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number
ANPT	(mm)	(m^3/h)	(l/min)	(s)	min.	max.	
1/2	19	3,43	57,2	1,5	2,5	15	**X210515731001H8.230/50**

K3

INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation
- Pipe connection identifier is X = ANPT (ANSI/ASME B1.20.1)
- Spare parts kits available: contact us

DIMENSIONS (mm), WEIGHT (kg)



weight
3,2

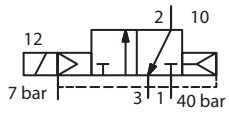
(1) Cable entry, CM12 (cable Ø 8,5-13 mm)

SOLENOID VALVES

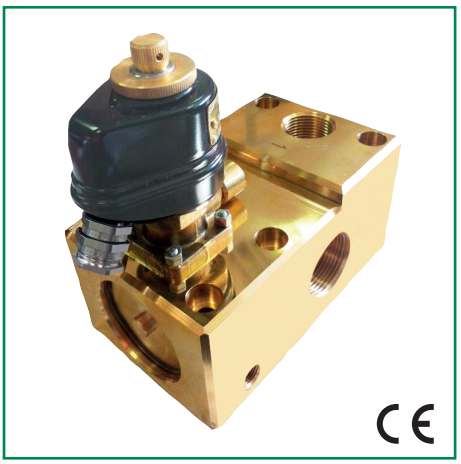
Type X288 - G1"

K3 RCC-E

NC



3/2
Series
X288



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E 2012 -+ 503936*
  Test report: *518213*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 20 years at 23°C*
  Variations: Cycles of 5°C to 50°C at 1°C/min
- *Functional:* *10 000 cycles ON-OFF*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

GENERAL

Differential pressure	0 to 40 bar [1bar = 100 kPa]
Piloting pressure	7 - 10 bar
Maximum allowable pressure	60 bar
Fluid controlled	Air, filtered

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing	Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body	Brass
Core tube	Stainless steel
Internal parts	Stainless steel
Seals	VAMAC®
Distributor body	Brass
Internal parts	Stainless steel, brass
Distributor seals	NBR, PUR, TPE-E
Exhaust protector	Brass, galvanized steel

ELECTRICAL CHARACTERISTICS

Electrical safety	IEC 335
Electrical entry	Cable gland, CM12 (cable Ø 8,5-13 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	-10 to +50

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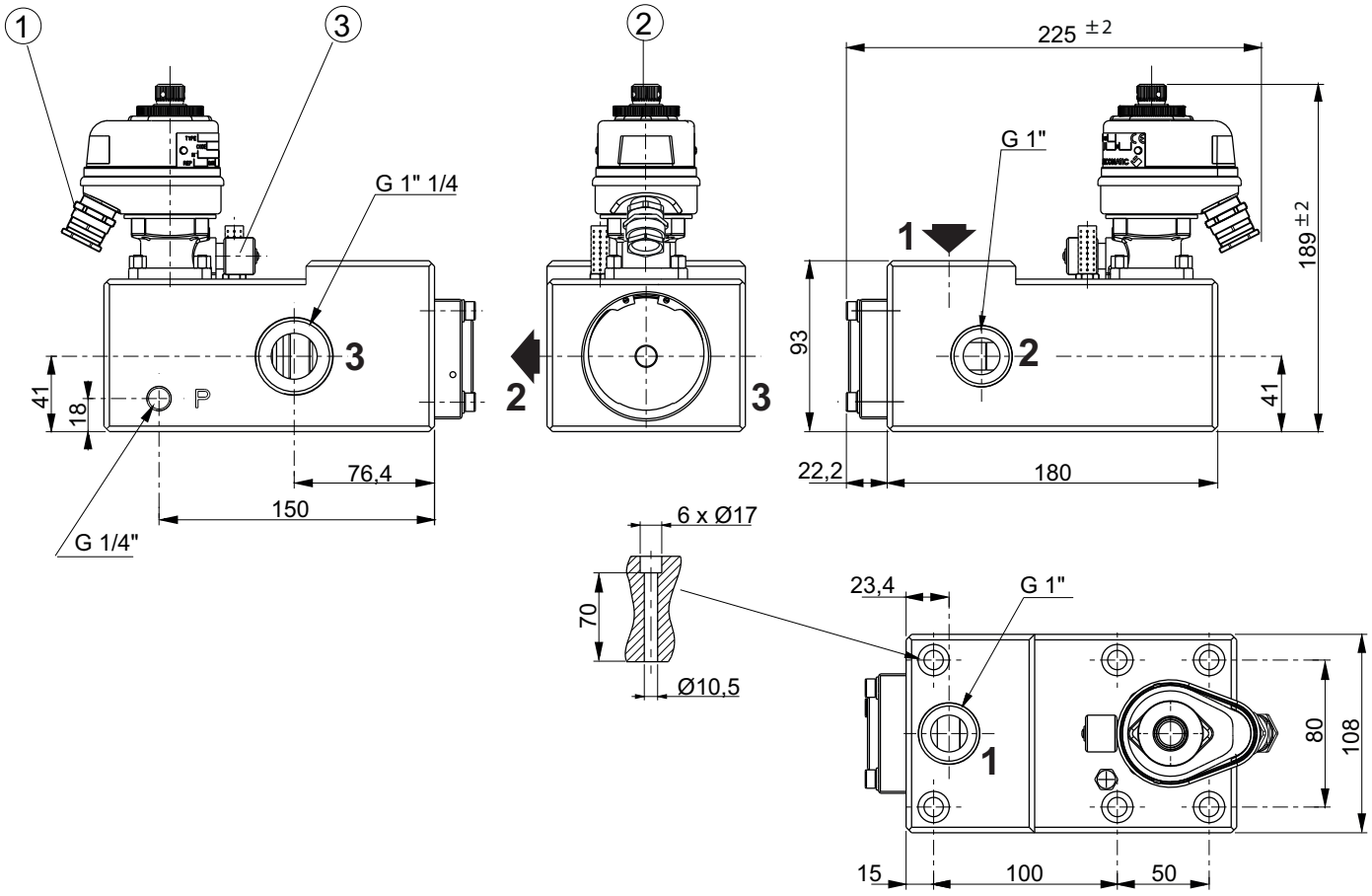
SPECIFICATIONS

pipe size G ports 1 & 2	pipe size G port 3	orifice size (mm)	rated flow (ΔP 1 bar at 6,3 bar) (l/min) 1→2	rated flow (ΔP 1 bar at 6,3 bar) (l/min) 2→3	response time (max.) at 31,5 bar (ms)	operating pressure differential (bar) min.	operating pressure differential (bar) max.	catalogue number
1	1 1/4	20	12 000	10 000	130	0	40	**X288517179001H9.48/DC**

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



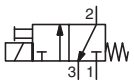
weight
13,5

1. Cable entry, CM12 (cable Ø 8,5-13 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location

SOLENOID VALVES

MB 301 O 3 G1/4"

K3 RCC-E

NC 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *MB301 - HM-63/9667 + ASCO argut file 503316*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2 g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Metal cover, black standard paint

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Cable entry Cable gland, , CM14 (cable Ø 15,5 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	11	13	H	IP54	+5 to +50

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SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G* (1)	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12102055.48/DC**	MB301 O 3 - K3

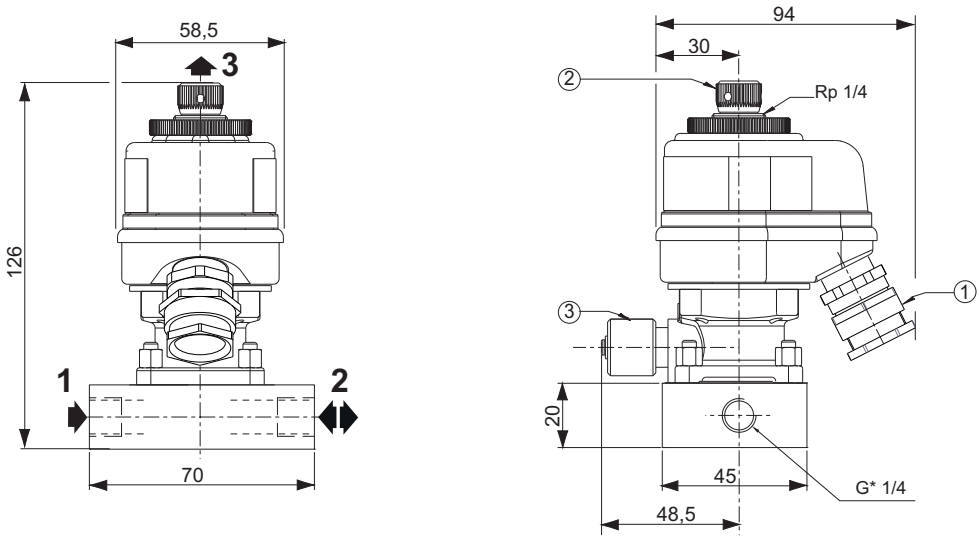
(1) Port 3: G 1/4

K3

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (Rp) is standard thread according to ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)



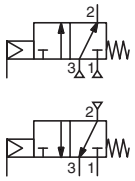
weight
1,75

1. Cable entry, CM14 (cable Ø 15,5 mm)
2. 3/2 NC: exhaust protector
3. Manual operator location

BOOSTER VALVE

pressure operated
398 3/2 U
threaded ports PN40, 3/4

U



3/2
Series
398

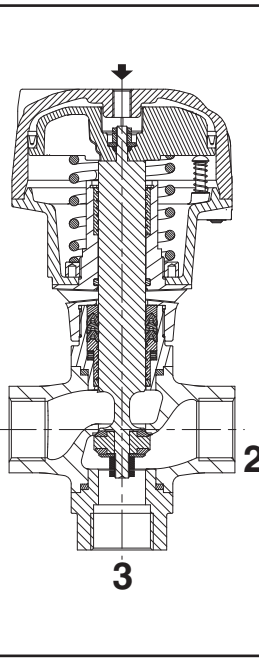
FEATURES

- *Valve manufactured in accordance with the design which passed: Seismic test: 5DSD (Half Dimensioning Seism) and 1SDD (Dimensioning Seism) according to valve indirectly linked to civil engineering (20 g max.) Vibration test: 2 hours in each direction/10 to 500 Hz/1 g*
- *Used in fluid remote control and servo systems*
- *High-performance stuffing box resistant to thermal shock*
- *Mixer function (two pressure inlets at 1 or 3, one outlet at 2) or distributor function (one pressure inlet at 2, two outlets at 1 and 3)*
- *Vacuum operation up to 10^{-2} mbar*
- *Allowable backpressure: up to 40 bar*
- *Optical position indicator as standard*
- *The valves satisfy Pressure Equipment Directive 97/23/EC, article 3.3*

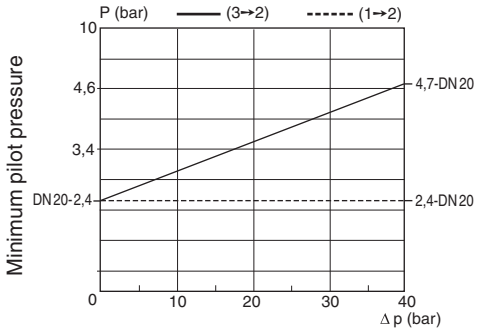
GENERAL

Differential pressure	0 to 40 bar [1 bar =100 kPa]
Maximum allowable pressure (Ps)	40 bar (100°C)
Ambient temperature range	-25°C to +55°C
Maximum viscosity	5000 cSt (mm^2/s)
Pilot fluid	Air
Max. pilot pressure	12 bar
Min. pilot pressure	See below

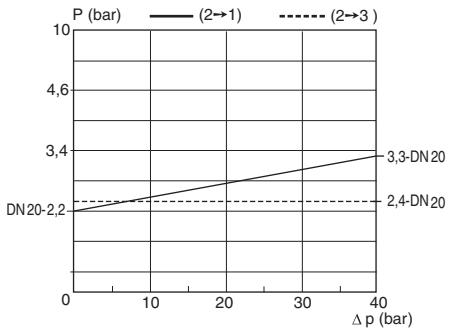
fluids (✳)	temperature range	disc seal (✳)
air	-10°C to +250°C	bronze PTFE



mixer function



distributor function



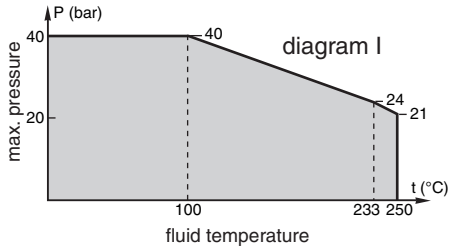
MATERIALS IN CONTACT WITH FLUID

(✳) **Ensure that the compatibility of the fluids in contact with the materials is verified**

Valve body and plug	Stainless steel
Stuffing box housing	Stainless steel
Stem, disc	Stainless steel
Stuffing box packing	PTFE chevrons
Disc seal	Bronze PTFE
Valve body seal	Graphite

OTHER MATERIALS

Operator	Aluminium, nickel plated



SPECIFICATIONS

piping (ISO 6708) pipe size	DN	flow coefficient Kv mixer 3→2		mixer 1→2		distributor 2→3		distributor 2→1		operator diameter	15-DIGIT PRODUCT CODE catalogue number	reference
NPTF		(m^3/h)	(l/min)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(mm)		
U - Universal												
3/4	20	8,0	133	7,4	123	8,1	136	7,7	129	100	**X39843469700100**	398 DN20 3/2 PN40 T100

K3

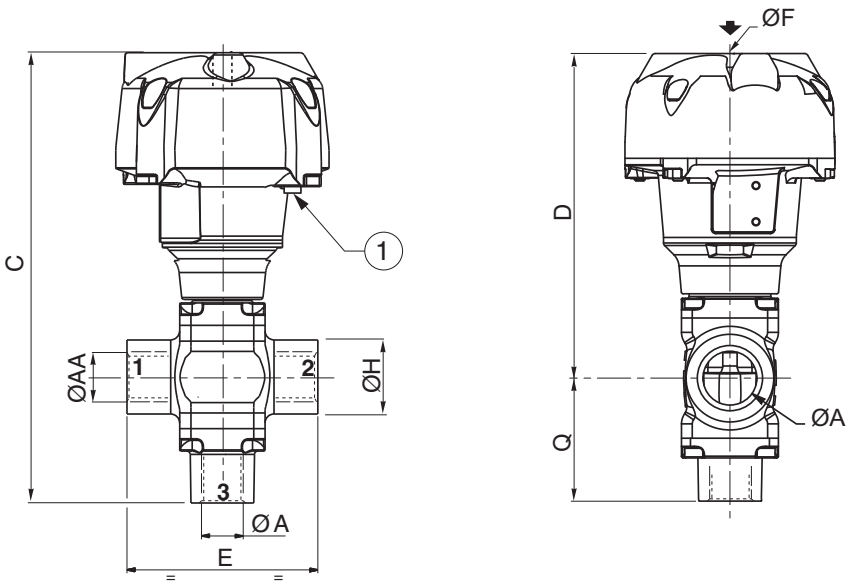
OPTIONS AND ACCESSORIES

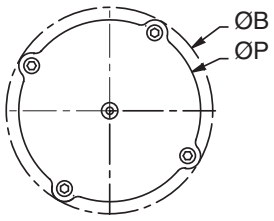
- Other pipe connections are available on request

INSTALLATION

- The valves can be mounted in any position without affecting operation
- Compatible with ASTM 1, 2 and 3 oils
- Pipe connection (ØF) has standard thread according to ISO 228/1 and ISO 7/1

DIMENSIONS (mm), WEIGHT (kg)





① Optical position indicator

DN	operator diameter	ØA	ØAA	ØB	C	D	E	ØF	ØH	ØP	Q	weight
20	100	20	3/4 NPTF	132,5	229,2	170,9	110	1/8 NPT	40	117	58,3	3,52

SOLENOID VALVES

MB 301 F 3 G1/4"

ATEX

NO

3/2 Series 121

DESCRIPTION

- *Solenoid valves with explosionproof operator MB type for use in potentially explosive atmospheres according to ATEX Directive 2014/34/EU*
  EC type examination certificate no.: ***LCIE 03 ATEX 6059 X***
  IECEx Certificate of Conformity no.: ***IECEx LCI 09.0001X***
- *Compliance with EU*
- *Fluid: Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid operator housing Aluminium

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals FPM

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Electrical connection Cable gland ATEX (cable Ø8,5 to Ø16 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)	safety code
48 VDC	11	13	H	IP65	-10 to +50	Ex d IIC T5 Gb Ex tb IIIC T100°C Db IP65
125 VDC	14	16				

SPECIFICATIONS

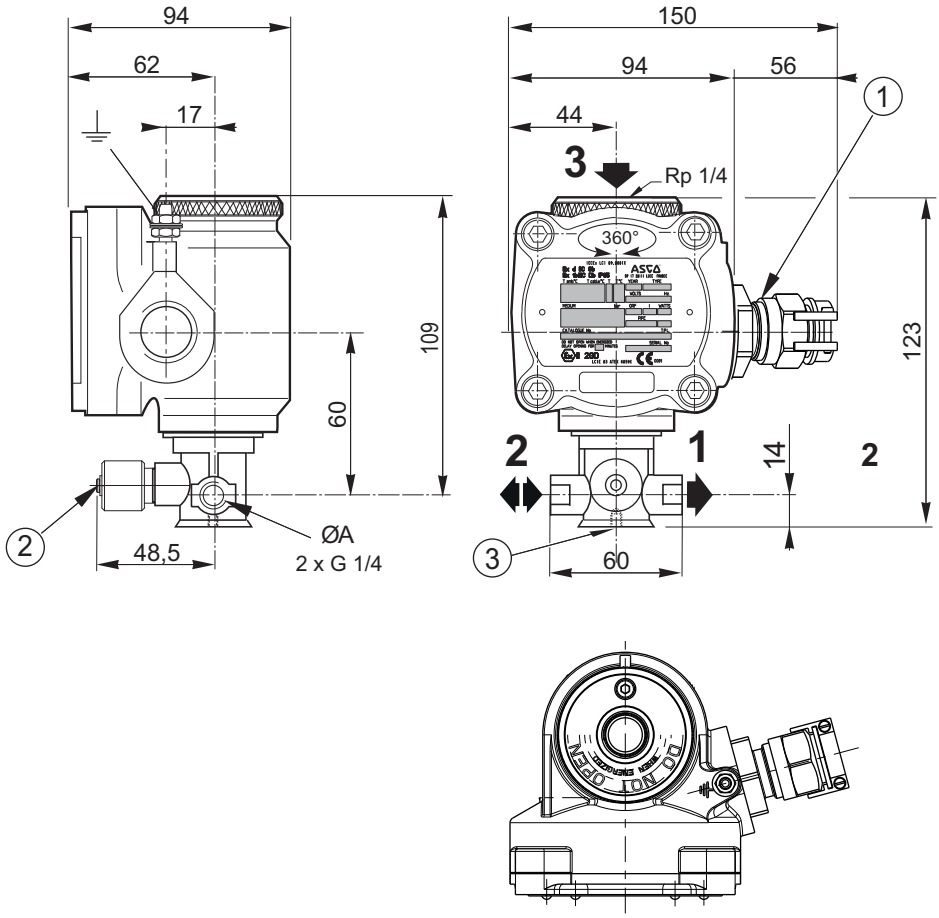
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	8	**12102026.48/DC** **12102026.125/DC**	MB301 F 3 - ATEX

ATEX

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (G) is standard thread according to ISO 228/1
- No spare parts available

DIMENSIONS (mm), WEIGHT (kg)



weight
1,5

1. Explosionproof cable gland, unarmoured cable, to IECEx-ATEX with clamp (catalogue number: 88200007)
2. Manual operator location
3. Mounting hole M5, depth 7 mm

SOLENOID VALVES

MB 301 O 3 G1/4"

ATEX

NC

3/2
Series
121

DESCRIPTION

- *Solenoid valves with explosionproof operator MB type for use in potentially explosive atmospheres according to ATEX Directive 2014/34/EU*
  EC type examination certificate no.: ***LCIE 03 ATEX 6059 X***
  IECEx Certificate of Conformity no.: ***IECEx LCI 09.0001X***
- *Compliance with EU*
- *Fluid: Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid operator housing Aluminium

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals FPM

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil protection Unidirectional diode
Electrical connection Cable gland ATEX (cable Ø8,5 to Ø16 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)	safety code
48 VDC	11	13	H	IP65	-10 to +50	Ex d IIC T5 Gb Ex tb IIIC T100°C Db IP65
125 VDC	14	16				

SPECIFICATIONS

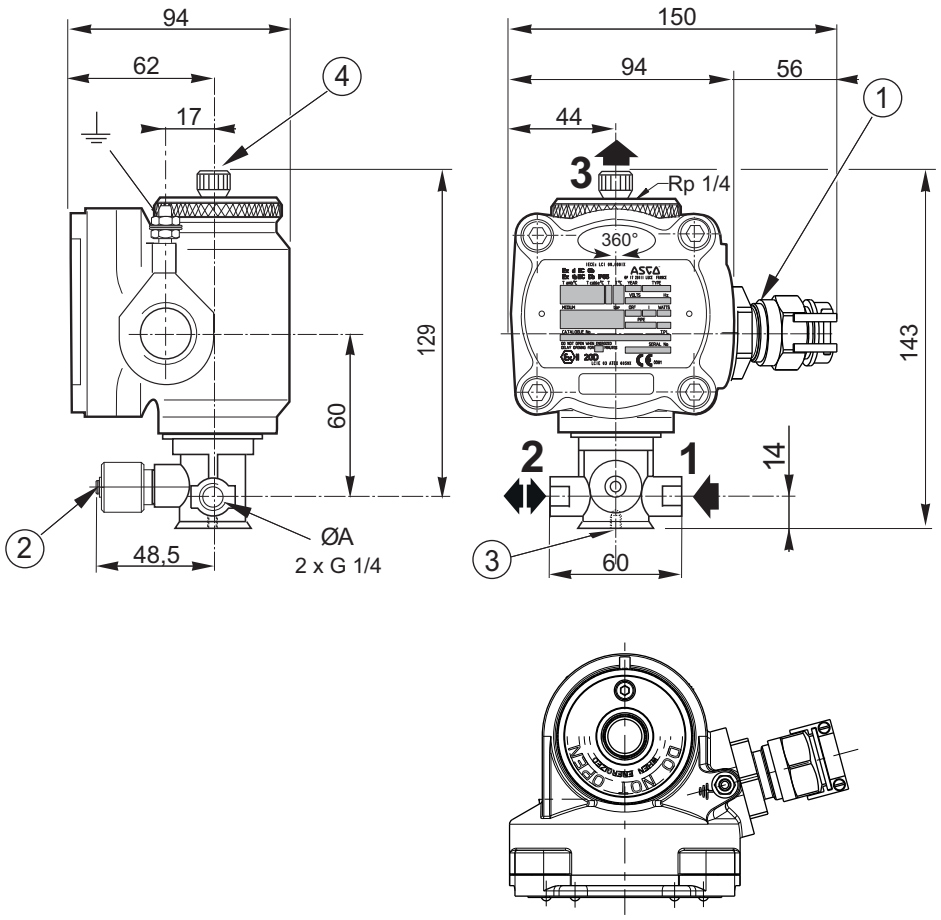
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12102025.48/DC** **12102025.125/DC**	MB301 0 3 - ATEX

ATEX

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (G) is standard thread according to ISO 228/1
- No spare parts available

DIMENSIONS (mm), WEIGHT (kg)



weight
1,5

1. Explosionproof cable gland, unarmoured cable, to IECEx-ATEX with clamp (catalogue number: 88200007)
2. Manual operator location
3. Mounting hole M5, depth 7 mm
4. 3/2 NC: exhaust protector

SOLENOID VALVES

V301 O 5 Rp1/4"

K2 RCC-E - ATEX

NC

3/2 Series 131

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *RCC-E + HM-63/7282-5*
  Test report: *V301 - HM-63/9699*
  Quality assurance: *NF EN ISO 9001 v2008*
  RCC-E 2012 # A5000

- *EMC:* *EMC test specification in accordance with RCC-E 2012*
  Surge immunity test (according to EN61000-4-5)
  1kV Phase to Phase - 2kV Phase to Ground
  Damped sinusoidal wave (according to EN 61000-4-18):
  100 KHz, 1 MHz, 3 MHz, 10 MHz; 0,5kV Phase to Phase, 1kV Phase to Ground
- *Ambient temperature:* *Aging 40 years at 23°C*
  Functional +10°C to +50°C
  Extreme -25°C to +70°C
  Damp head 2 cycles of 24 hours (according to EN60068-2-30 variant 2)
- *Functional:* *20 000 cycles 0,1 Hz ON-OFF at +50°C*
- *Seismic:* *Vibration aging 2g from 10 Hz to 500 Hz during 2 hours on each axis*
  RCC-E Seismic component level response spectrum (up to 30g from 1 Hz to 100 Hz at 5%) ZPA: 6 g
- *Fluid:* *Dry air or filtered air*
- *ATEX Directive 2014/34/EU:* *EC type examination certificate no.: LCIE 02 ATEX 6253 X*
  IECEx Certificate of Conformity no.: IECEx LCI 09.0004X

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, black standard paint
Threaded base, cover & screw Cast iron, aluminium,steel

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Coil connection Screw terminals
Coil protection Unidirectional diode
Electrical connection Cable gland ATEX (cable Ø8,5 to Ø16 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)	safety code
48 VDC	32	36	H	IP65	+5 to +50	Ex d IIC T5 Gb Ex tb IIIC T100°C Db IP65
125 VDC	39	44				

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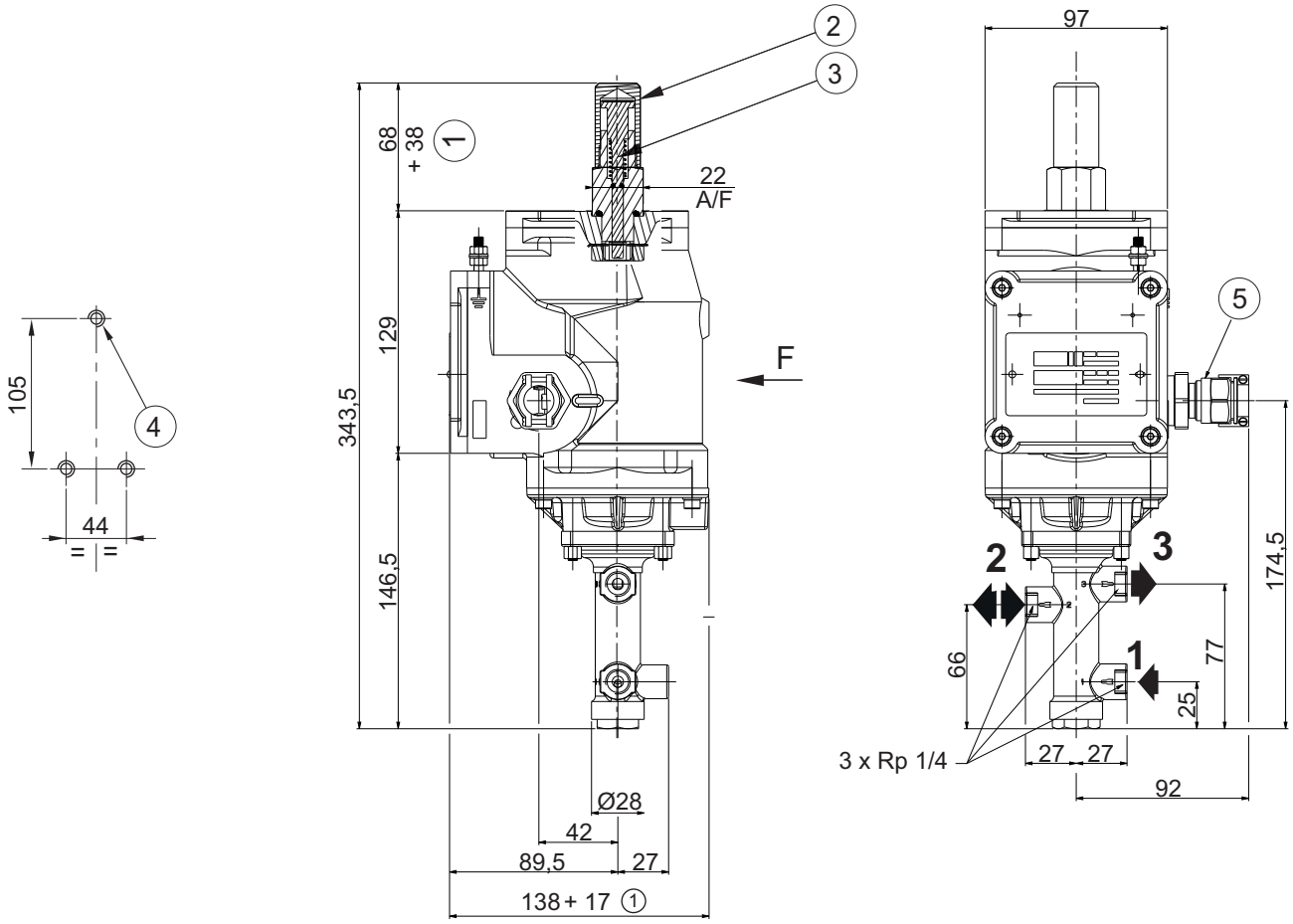
SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m³/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**X131508749001H9**	V301 O 5 48/DC - K2 ATEX
							X131508749002J1	V301 O 5 125/DC - K2 ATEX

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1
- No spare parts available

DIMENSIONS (mm), WEIGHT (kg)



weight
7,9

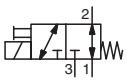
(1) Dimension to be added to allow for removal
(2) Cover for manual operator
(3) Manual operator location
(4) 3 mounting holes M6, depth 9 mm
(5) Explosionproof cable gland, unarmoured cable, to IECEx-ATEX with clamp (catalogue number: 88200007)

SOLENOID VALVES

V301 U 5 Rp1/4"

ATEX

U



3/2
Series
131

DESCRIPTION

- *Solenoid valve with flameproof operator type V for use in potentially explosive atmospheres, EC type examination according to ATEX Directive 2014/34/EU*
  EC type examination certificate no.: ***LCIE 02 ATEX 6253 X***
  IECEx Certificate of Conformity no.: ***IECEx LCI 09.0004X***
- *Compliance with EU*
- *Fluid: Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing	Cast iron, blue decontaminable paint
Threaded base, cover & screw	Cast iron, aluminium,steel

MATERIALS IN CONTACT WITH FLUID

Body	Brass
Internal parts & springs	Stainless steel
Seals	VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety	IEC 335
Coil connection	Screw terminals
Coil protection	Unidirectional diode
Electrical connection	Cable gland ATEX (cable Ø 13,5 to 21 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)	safety code
48 VDC	32	36	H	IP65	-10 to +50	Ex d IIC T5 Gb Ex tb IIIC T100°C Db IP65
125 VDC	39	44				

VAMAC® is a registered trademark of Dupont Performance Elastomers

SPECIFICATIONS

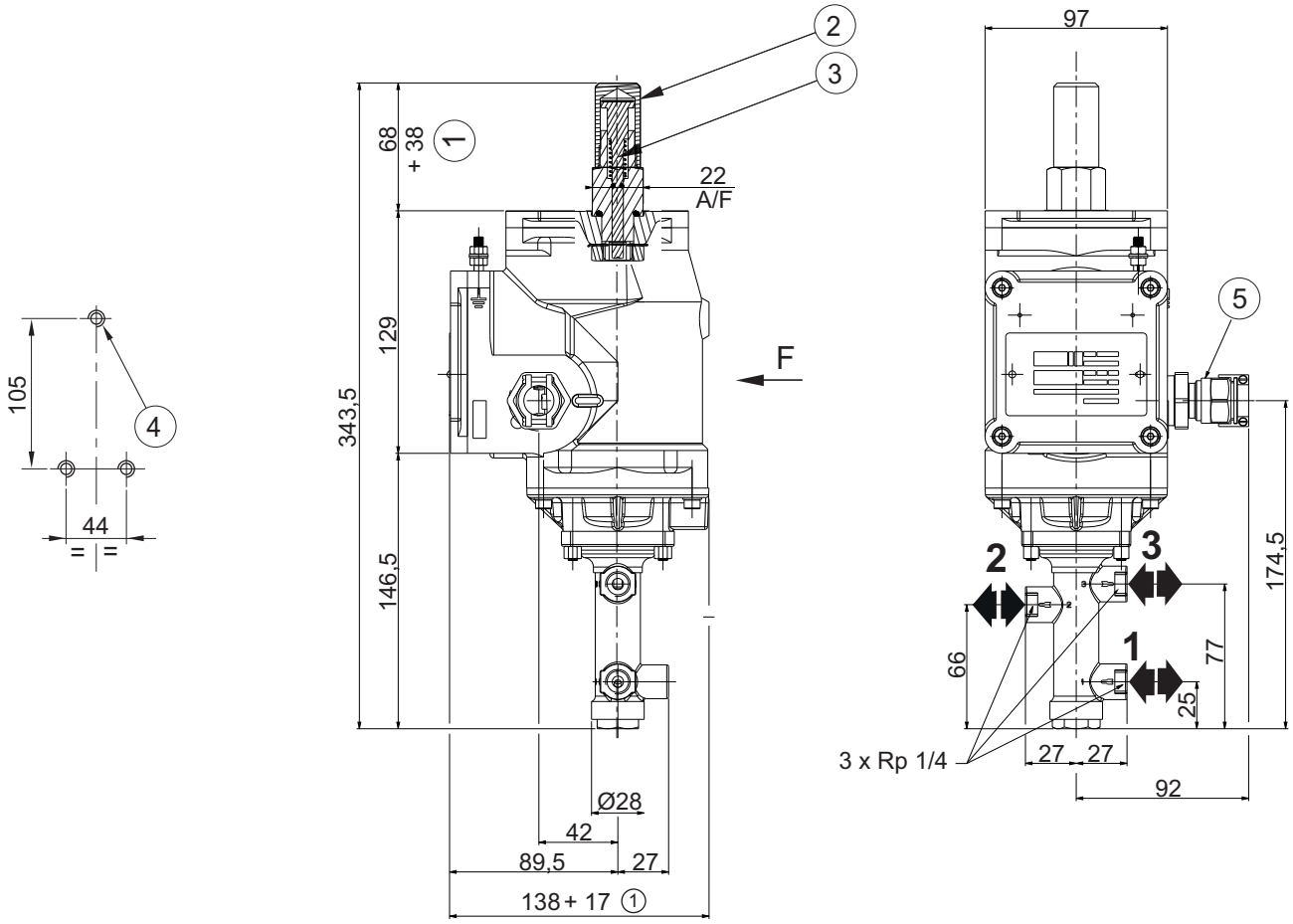
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	4	19,2	320	500	0	10	**13102121.48/DC**	V301 U 5 48/DC - ATEX
							13102121.125DC	V301 U 5 125/DC - ATEX

ATEX

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1
- No spare parts available

DIMENSIONS (mm), WEIGHT (kg)



weight
7,9

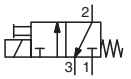
(1) Dimension to be added to allow for removalr
(2) Cover for manual operator
(3) Manual operator location
(4) 3 mounting holes M6, depth 9 mm
(5) Explosionproof cable gland, unarmoured cable, to IECEx-ATEX with clamp

SOLENOID VALVES

V301 O 5 Rp1/4"

ATEX

NC



3/2 Series 131

DESCRIPTION

- *Solenoid valve with flameproof operator type V for use in potentially explosive atmospheres, EC type examination according to ATEX Directive 2014/34/EU*
  EC type examination certificate no.: ***LCIE 02 ATEX 6253 X***
  IECEx Certificate of Conformity no.: ***IECEx LCI 09.0004X***
- *Compliance with UE*
- *Fluid: Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing	Cast iron, black standard paint
Threaded base, cover & screw	Cast iron, aluminium,steel

MATERIALS IN CONTACT WITH FLUID

Body	Brass
Internal parts & springs	Stainless steel
Seals	NBR

ELECTRICAL CHARACTERISTICS

Electrical safety	IEC 335
Coil connection	Screw terminals
Coil protection	Unidirectional diode
Electrical connection	Cable gland ATEX (cable Ø8,5 to Ø16 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)	safety code
48 VDC	32	36	H	IP65	-10 to +50	Ex d IIC T5 Gb Ex t IIIC T100°C Db IP65
125 VDC	39	44				

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SPECIFICATIONS

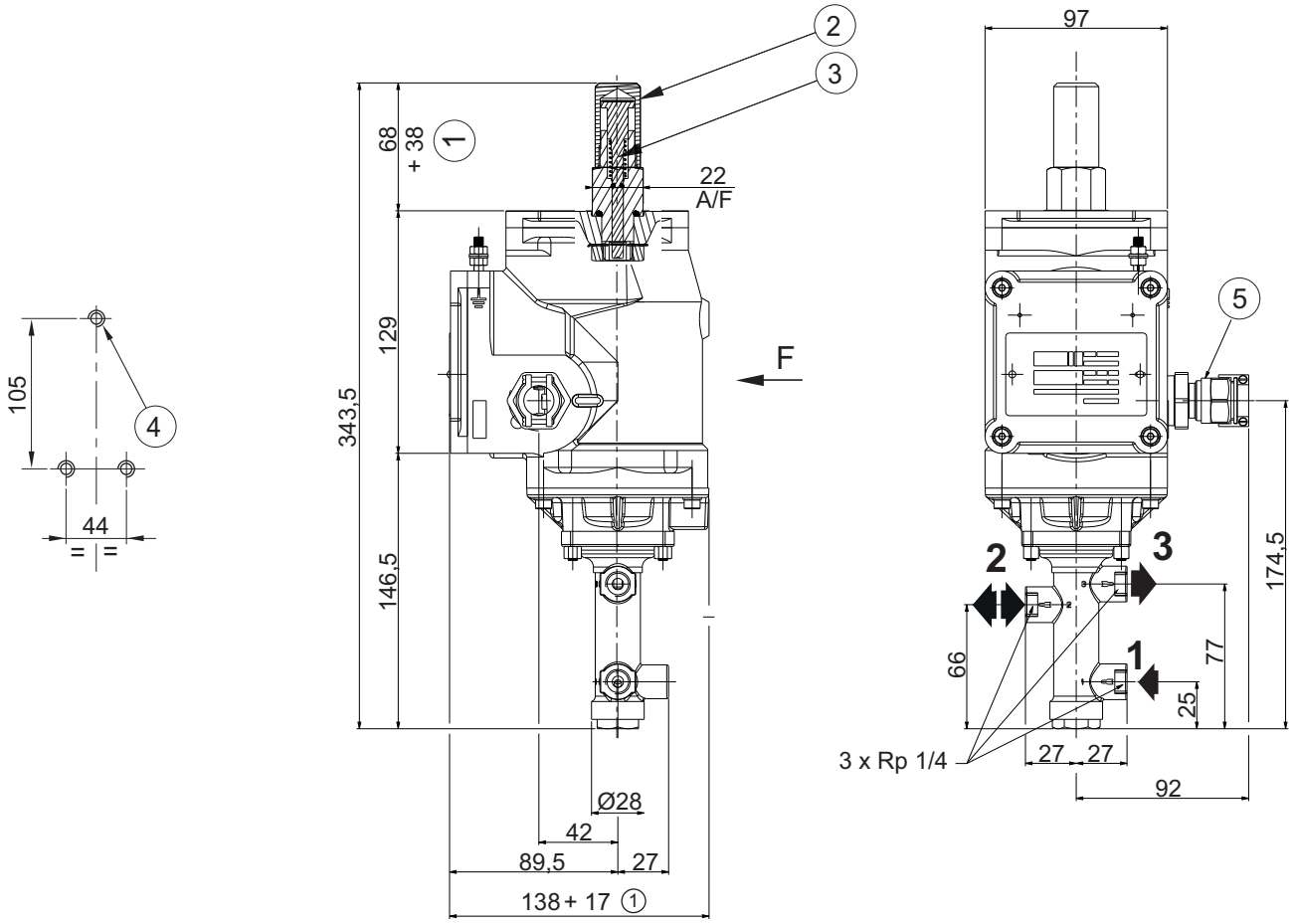
pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
Rp	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	5	27,4	450	500	0	10	**13102116.48/DC**	V301 O 5 48/DC - ATEX
							13102116.125DC	V301 O 5 125/DC - ATEX

ATEX

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Do not power on unless the metal cover is properly in place
- Solenoid valves have 3 mounting holes in body
- Pipe connection (Rp) is standard thread according to ISO 7/1
- No spare parts available

DIMENSIONS (mm), WEIGHT (kg)



weight
7,9

(1) Dimension to be added to allow for removalr
(2) Cover for manual operator
(3) Manual operator location
(4) 3 mounting holes M6, depth 9 mm
(5) Explosionproof cable gland, unarmoured cable, to IECEx-ATEX with clamp (catalogue number: 88200007)

SOLENOID VALVES

MT302 D G3/8"

ATEX

NC

3/2
Series
231

DESCRIPTION

- *Solenoid valves with explosionproof operator MB type for use in potentially explosive atmospheres according to ATEX Directive 2014/34/EU*
  EC type examination certificate no.: ***LCIE 03 ATEX 6059 X***
  IECEx Certificate of Conformity no.: ***IECEx LCI 09.0001X***
- *Compliance with EU*
- *Fluid: Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid operator housing	Aluminium
Threaded base, cover & screw	Aluminium, steel

MATERIALS IN CONTACT WITH FLUID

Body	Brass
Internal parts & springs	Stainless steel
Seals	NBR, FPM, VMQ

ELECTRICAL CHARACTERISTICS

Electrical safety	IEC 335
Coil protection	Unidirectional diode
Electrical connection	Cable gland ATEX (cable Ø8,5 to Ø16 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)	safety code
48 VDC	32	36	H	IP65	-10 to +50	Ex d IIC T5 Gb Ex tb IIIC T100°C Db IP65
125 VDC	39	44				

SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
3/8	9	80,6	1345	76	1270	500	3	10	**23100261.48/DC**	MT302 D(1).48/DC - ATEX
									23100261.125/DC	MT302 D(1).125/DC - ATEX

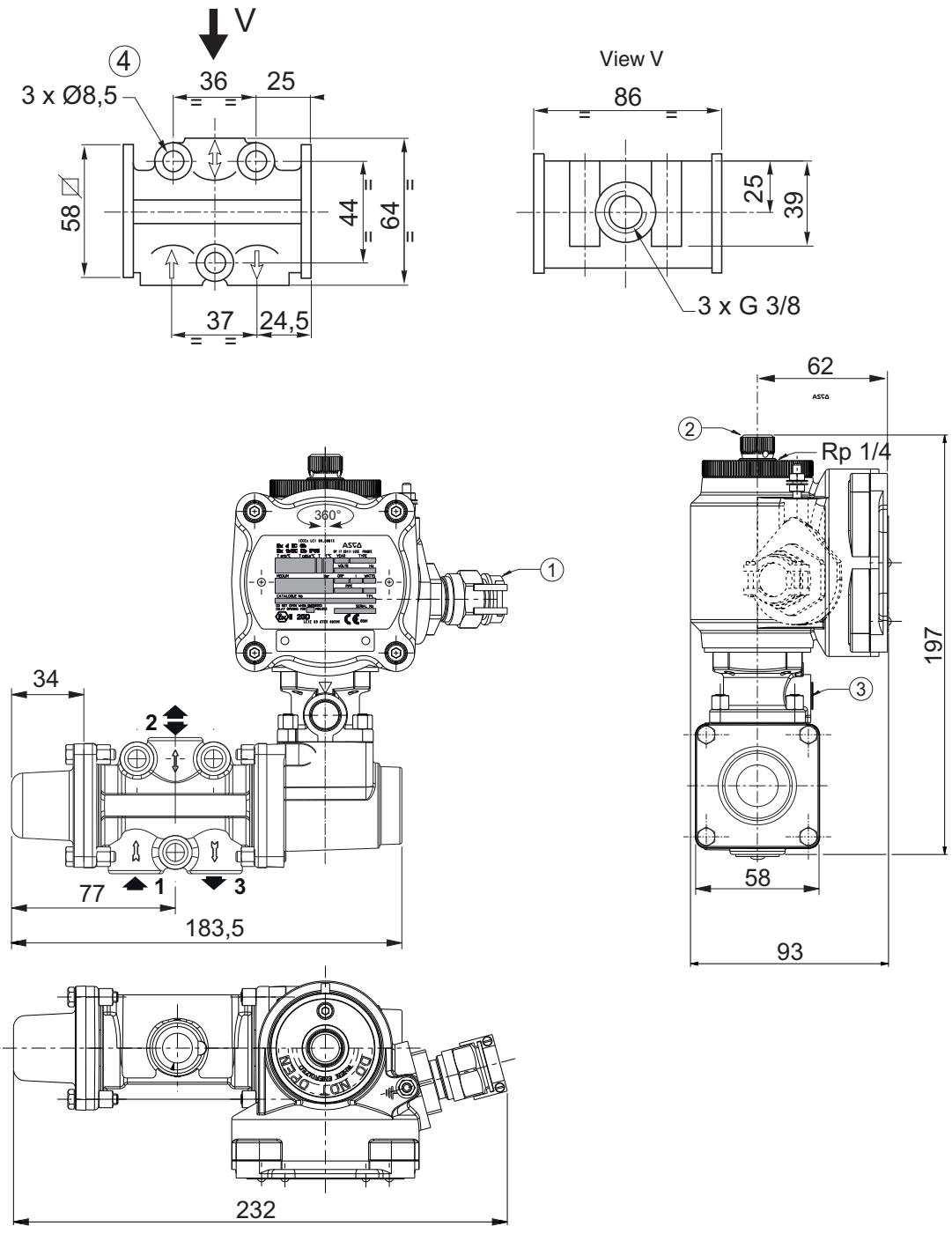
(1) D = Direct supply.

ATEX

INSTALLATION

- The valve must be installed with the spool in horizontal position
- Do not power on unless the metal cover is properly in place
- Pipe connection (G) is standard thread according to ISO 228/1. Pipe connection (Rp) is standard thread according to ISO 7/1
- No spare parts available

DIMENSIONS (mm), WEIGHT (kg)



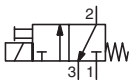
weight
2,7

1. Explosionproof cable gland, unarmoured cable, to IECEx-ATEX with clamp (catalogue number: 88200007)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

SOLENOID VALVES

MB 301 O 3 G1/4"

1EA I-EEE

NC 

3/2 Series 121

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

Test requirements:	*I-EEE 323 (1974), 344 (1975), 382 (1972)* *A28921/N0*
Test report:	*1EA: DMA.AV.ja no. 2.418.8/1845* *RSQ 31.01*
Quality assurance:	*10CFR50 appendix B* *NF EN ISO 9001-2008* *RCC-E 2012 # A5000*

- *Ambient temperature:* *Aging 15 years at 50°C*
- *Functional:* *10 000 cycles ON-OFF*
- *Radiation:* *Aging 50 Mrad*
Accident 150 Mrad
- *Seismic:* *Vibration aging 1 g from 10 Hz to 500 Hz, 1 hour on each axis*
Seismic and aircraft crash: up to 6g from 1 Hz to 100 Hz
- *LOCA - Accident:* *2 peaks at 10 bar, 180°C*
Post-accident aging: 100°C during 274h
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, orange painting

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
110 VDC	14	16	H	IP65	-10 to +50

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SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G (1)	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/4	3	16	260	250	0	10	**12102054.110/DC**	MB301 O 3 - 1EA

(1) Port 3: G 1/4

SUBBASE (BRASS)

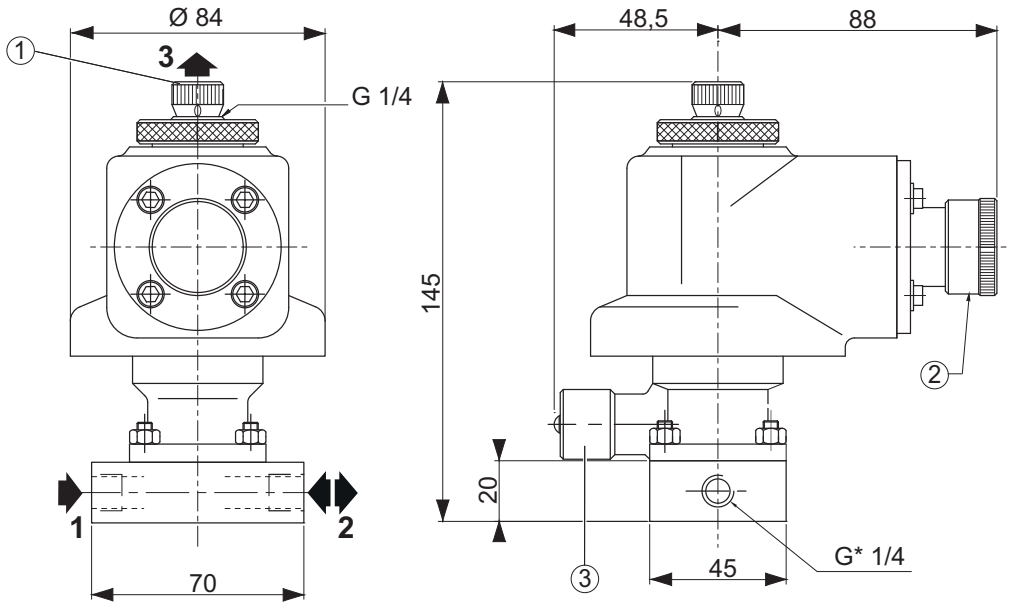
pipe size	designation	composition	catalogue number
G* 1/4	laterally-connected joinable subbase		**36100001**

I-EEE

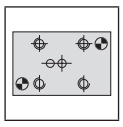
INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Solenoid valves have 4 mounting holes in body
- 1/4 pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (G) is standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)

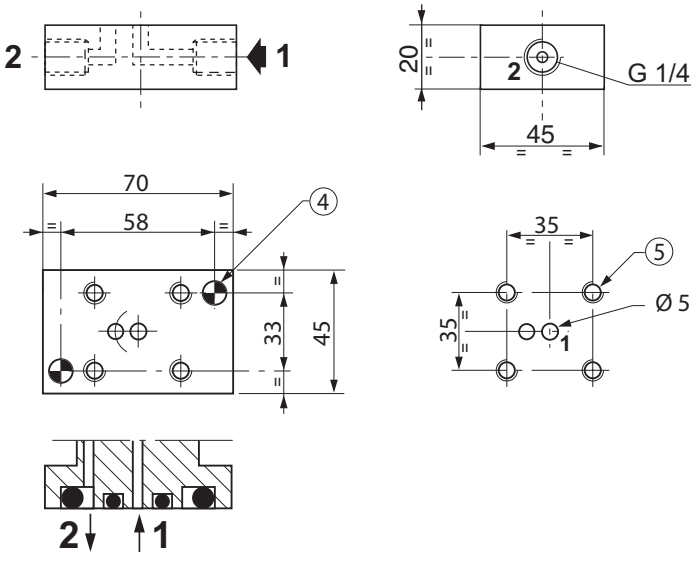


1 3/2 NC: exhaust protector
2 QDC: Quick Disconnect Connector, 8NA 4G 12 12
3 Manual operator location
4 2 mounting hole 5,5 mm dia.
5 4 mounting hole M5, depth 12 mm



SUBBASE MOUNTING PATTERN
Brass
2 x G* 1/4
(0,47 kg)

36100001

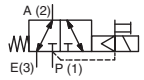


weight
3

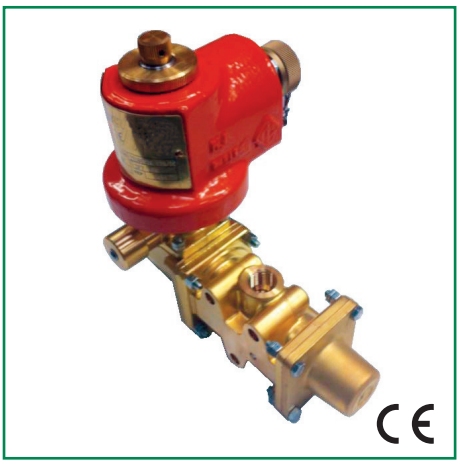
SOLENOID VALVES

MT302 D G3/8"

1EA I-EEE

NC 

3/2
Series
231



QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

Test requirements:	*I-EEE 323 (1974), 344 (1975), 382 (1972)* *A28921/N0*
Test report:	*1EA: DMA.AV.ja no. 2.418.8/1845* *RSQ 31.01*
Quality assurance:	*10CFR50 appendix B* *NF EN ISO 9001-2008* *RCC-E 2012 # A5000*

- *Ambient temperature:* *Aging 15 years at 50°C*
- *Functional:* *10 000 cycles ON-OFF*
- *Radiation:* *Aging 50 Mrad*
Accident 150 Mrad
- *Seismic:* *Vibration aging 1 g from 10 Hz to 500 Hz, 1 hour on each axis*
Seismic and aircraft crash: up to 6g from 1 Hz to 100 Hz
- *LOCA - Accident:* *2 peaks at 10 bar, 180°C*
Post-accident aging: 100°C during 274h
- *Fluid:* *Dry air or filtered air*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Cast iron, orange painting

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Cable entry Quick Disconnect Connector (QDC)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
110 VDC	14	16	H	IP65	-10 to +50

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SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar) 1→2		2→3		response time (max.)	operating pressure differential (bar)		catalogue number	reference
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
3/8	9	80,6	1345	76	1270	500	3	10	**23102049.110/DC**	MT302 D(1) - 1EA

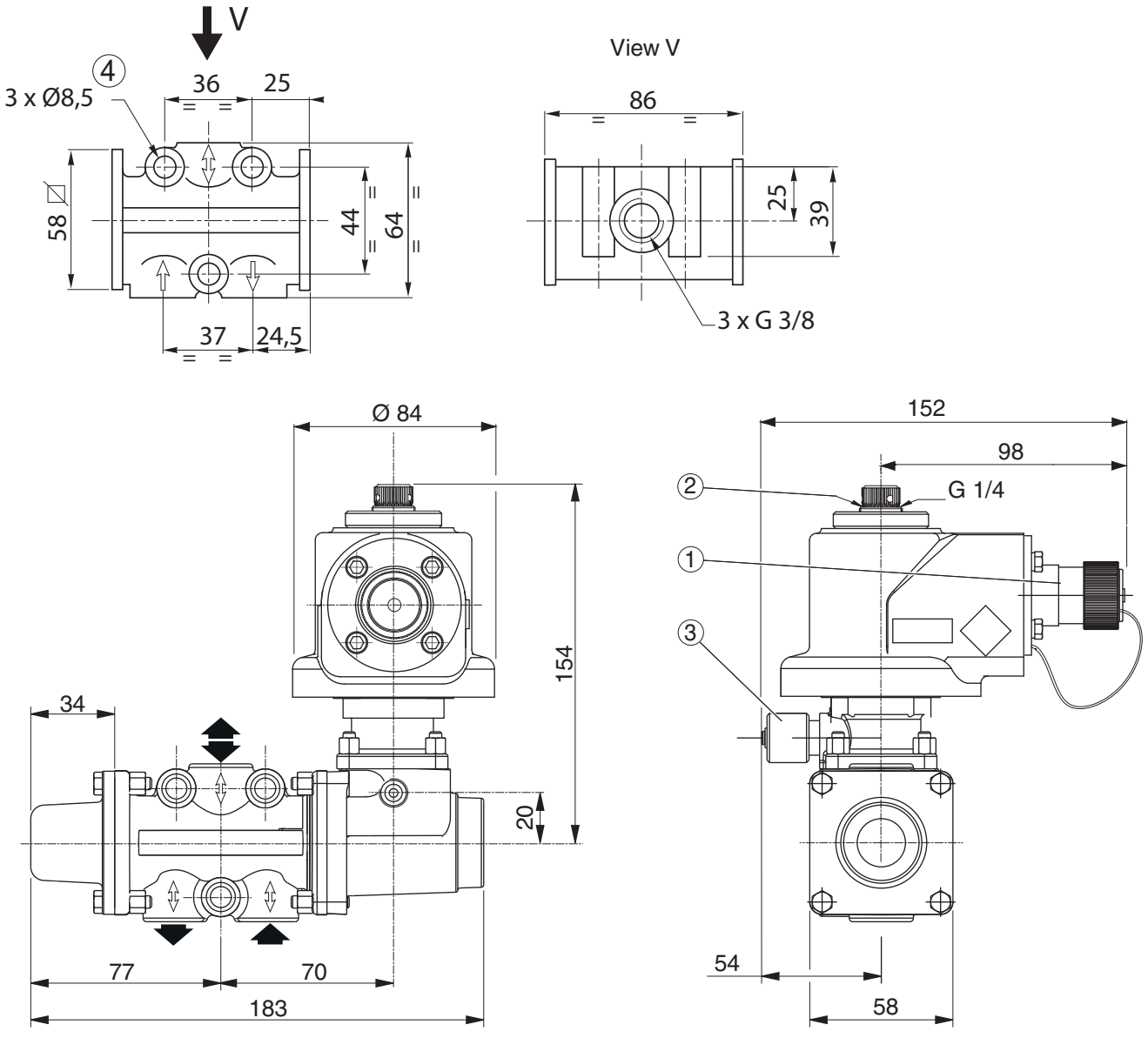
(1) Port 3: G 1/4

I-EEE

INSTALLATION

- The valve must be installed with the spool in horizontal position.
- Pipe connection (G) is standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



weight
5

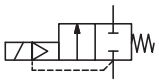
1. QDC: Quick Disconnect Connector (DEUTSCH DCIHN)
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 8,5 mm dia.

SOLENOID FUEL VALVES

flanges connection

1E I-EEE ASME III class 3

NC



2/2
Series
329

QUALIFICATION DESCRIPTION

- *Solenoid valve that meets the nuclear power station requirements and qualified according to:*

Test requirements:	*I-EEE 323 (2003), 344 (2004), 382 (2006)*
	504943
Test report:	*511171*
Quality assurance:	*10CFR50 appendix B*
	NF EN ISO 9001-2008
	SGAQ DIN/DPN/DNC no. 2013-03 EDF

- *Ambient temperature:* *Aging > 30 years at 25°C*
- *Functional:* *1500 cycles ON-OFF*
- *Seismic:* *Seismic and aircraft crash: up to 4g from 1 Hz to 100 Hz Response spectrum (2%) ZPA ≈ 1 g*
- *Fluid:* *Fuel*

SOLENOID OPERATOR CONSTRUCTION

Solenoid housing Stainless steel

MATERIALS IN CONTACT WITH FLUID

Body Brass, stainless steel
Internal parts & springs Stainless steel
Diaphragm & Seals FPM

ELECTRICAL CHARACTERISTICS

Electrical safety IEC 335
Electrical connection Cable gland (cable Ø7 - 12 mm)

voltage (-20% +10%)	power ratings (W) hot	power ratings (W) cold	coil insulation class	type of protection	temperature range (C°)
48 VDC	13,2	9,8	H	IP65	+10 to +45

SPECIFICATIONS

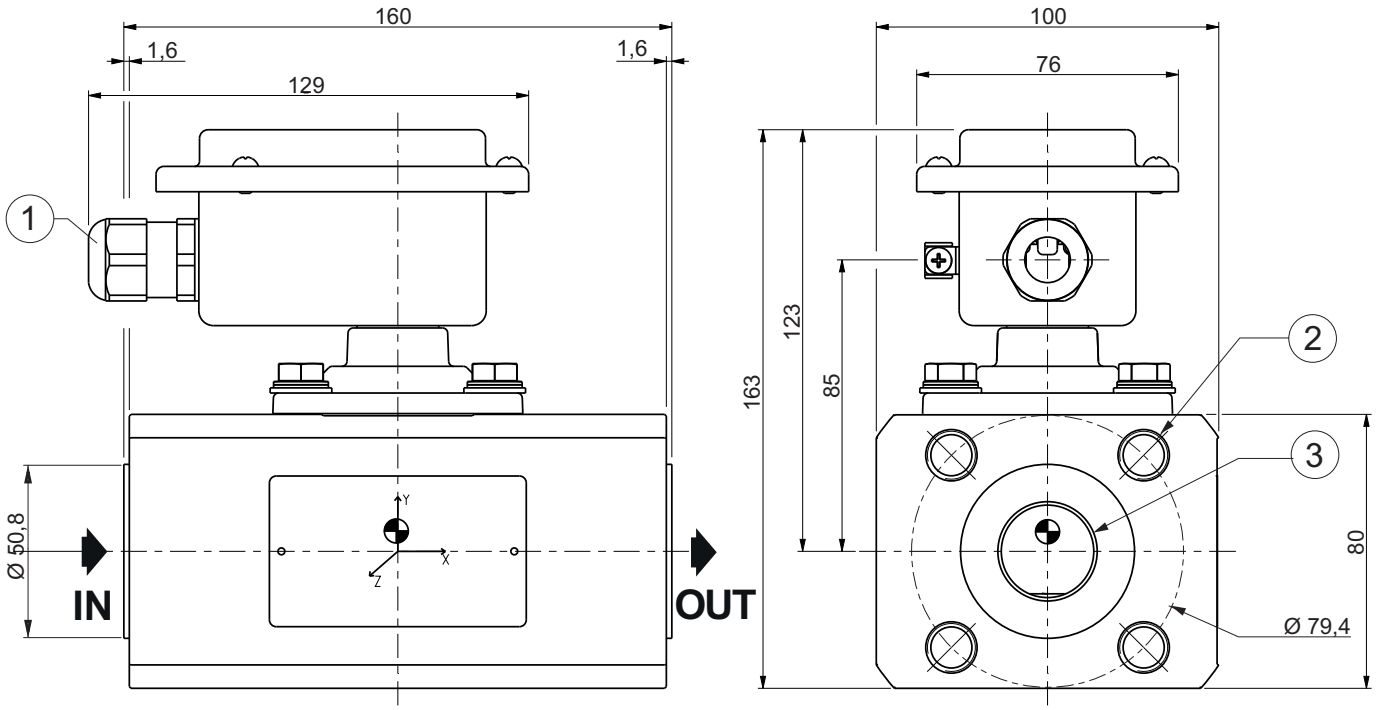
pipe size	orifice size	rated flow (5 bar) 1→2		response time (max.)	operating pressure differential (bar)		catalogue number	reference
	(mm)	(m^3/h)	(l/min)	(ms)	min.	max.		
flanges	25	9,96	166	500	0,1	5	**32900064.48/DC**	329 2/2 NC

I-EEE

INSTALLATION

- The solenoid valve must always be installed with body vertical and solenoid operator upward
- Spare parts kits available: Contact us

DIMENSIONS (mm), WEIGHT (kg)



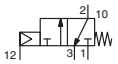
weight
9,3

① Cable gland (cable Ø7 - 12 mm)
② 2 x 4 holes, thread M14, deeph 20 mm
③ 2 x 27 mm diam.

AIR VALVES

T303 G1/2"

1EA I-EEE

NC 

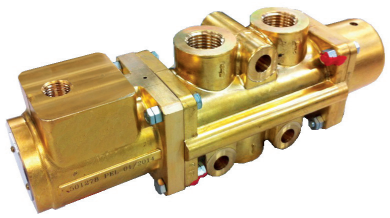
3/2
Series
X231

QUALIFICATION DESCRIPTION

- *Valve that meets the nuclear power station requirements and qualified according to:*

  Test requirements: *I-EEE 323 (2003), 344 (2004), 382 (2006)*
  Test report: *1EA: DMA.AV.ja no. 2.418.8/1845*
  503166
  Quality assurance: *10CFR50 appendix B*
  NF EN ISO 9001-2008
  RCC-E 2012 # A5000

- *Ambient temperature:* *Aging 15 years at 50°C*
- *Functional:* *10 000 cycles ON-OFF*
- *Radiation:* *Aging 50 Mrad*
  Accident 150 Mrad
- *Seismic:* *Vibration aging 1 g from 10 Hz to 500 Hz, 1 hour on each axis*
  Seismic and aircraft crash: up to 6g from 1 Hz to 100 Hz
- *LOCA - Accident:* *2 peaks at 10 bar, 180°C*
  Post-accident aging: 100°C during 274h
- *Fluid:* *Dry air or filtered air*



CE

GENERAL

Differential pressure 0 to 10 bar [1bar = 100 kPa]
Pilot pressure 3 to 10 bar

MATERIALS IN CONTACT WITH FLUID

Body Brass
Internal parts & springs Stainless steel
Seals VAMAC®

SPECIFICATIONS

pipe size	orifice size	rated flow (ΔP 1 bar at 6,3 bar)				response time (max.)	operating pressure differential (bar)		catalogue number	reference
		1→2		2→3						
G	(mm)	(m^3/h)	(l/min)	(m^3/h)	(l/min)	(ms)	min.	max.		
1/2	15	-	4500	-	4000	500	0	10	**X23150173200100**	T303 RH 1EA

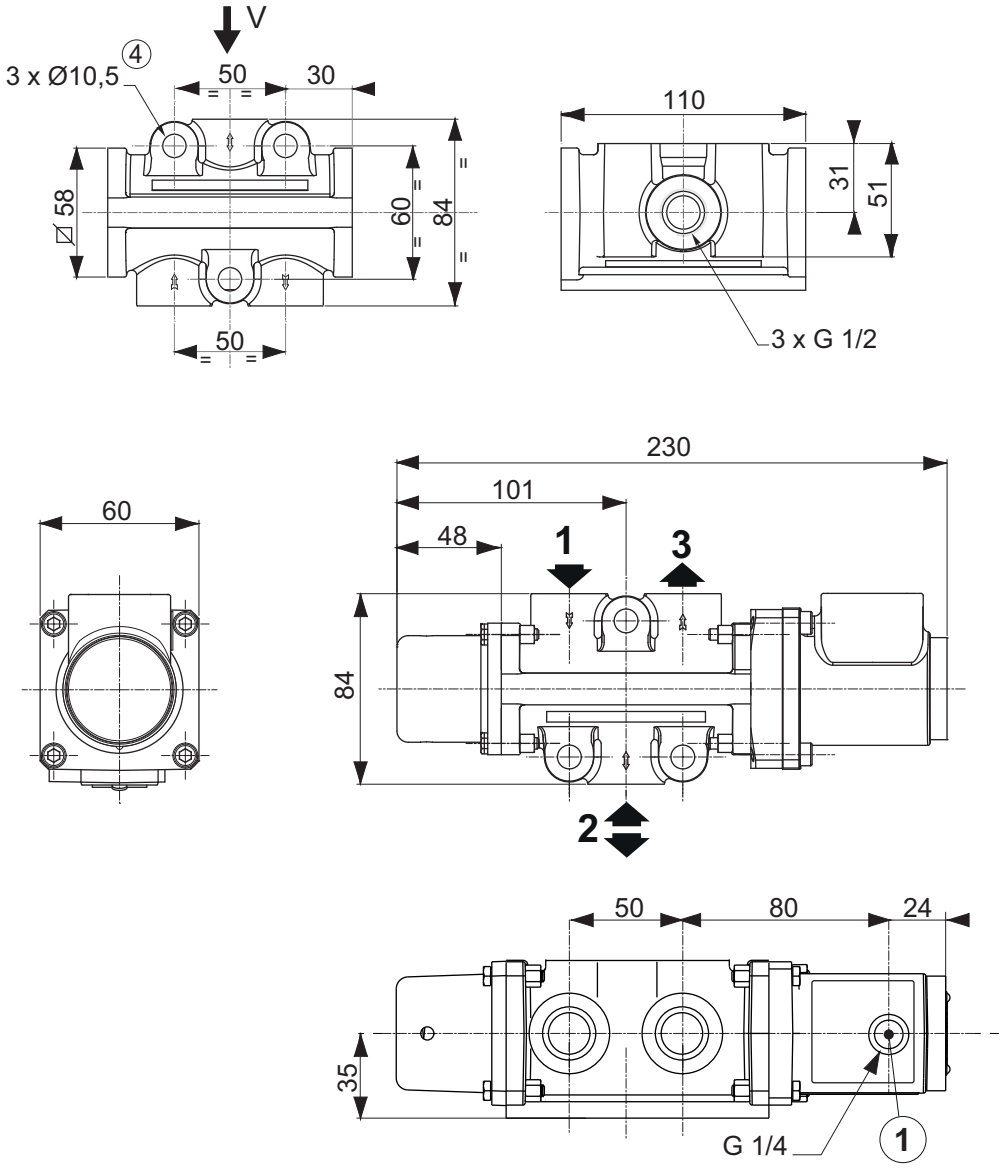
VAMAC® is a registered trademark of Dupont Performance Elastomers

I-EEE

INSTALLATION

- The valve must be installed with the spool in horizontal position.
- Pipe connection (G) is standard thread according to ISO 228/1

DIMENSIONS (mm), WEIGHT (kg)



weight
4,2

1. QDC: Quick Disconnect Connector
2. 3/2 NC: exhaust protector
3. Manual operator location
4. 3 mounting holes 10,5 mm dia.

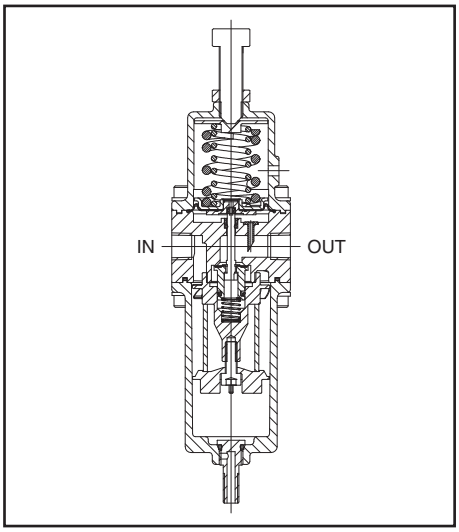
FILTER, REGULATOR AND FILTER/REGULATOR

stainless steel 316L
compact 1/4, high flow 1/4 - 1/2

FEATURES

- *Stainless Steel Filter, Regulator and Filter Regulator intended for corrosive environment and suitable for use in potentially explosive atmosphere caused by gases, vapours, mists and / or dust according to new **ATEX** directive **2014/34/EU**.*
  SAFETY CODE:
  II 2GD IIC T100°C (T5), with 90°C ambient temperature
  II 2GD IIC T85°C (T6), with 75°C ambient temperature
  ***(ZONE 1-21)** Explosion group IIC*
- *CU-TR certified for potentially explosive atmospheres*
- *Functional Safety: IEC 61508, SIL certified*
- *Comply with the European Essential Health and Safety Requirements **(EN13643-1)***
- *All internal metal parts made of 316 / 316L stainless steel*
- *Built-in overpressure relieving function, non-relieving option available*
- *316L Stainless Steel body, bonnet and bowl*
- *Internal springs made of INCONEL® to suit sour gas environment complying to NACE MR0175 / ISO 15156 (1)*

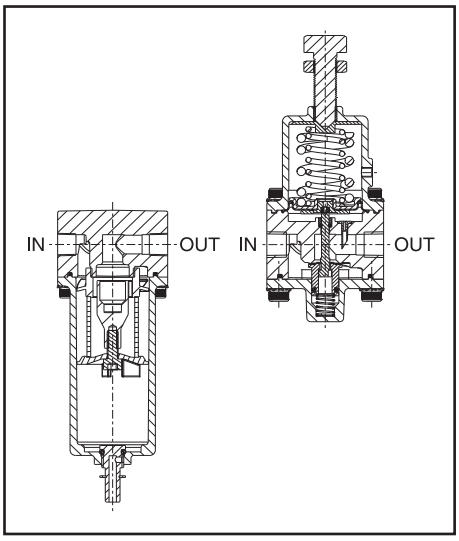
(1) Only available for High Flow SSFR as an option
INCONEL® is trademark of the Special Metals Corporation group of companies



BENEFITS

- *Precise tuning and regulation - using dual spring design (2)*
- *Improved regulation accuracy - with pitot tube feedback (2)*
- *Effective moisture removal - using fin diverters to create centrifugal action (2)*
- *Long lasting product labeling - laser etched marking on stainless steel bowl (3)*

(2) Only available for High Flow SSFR
(3) Only available for Compact SSFR



CHARACTERISTICS

	Compact	High Flow
Fluids	Compressed air, neutral gas, natural gas	Compressed air, neutral gas, natural gas & sour naturalgas
Compliance to NACE for sour Gas environmend	No	Yes (as an option)
Ports	1/4	1/4 & 1/2
Threads	NPT G as an option	
Pressure range (inlet)	0 - 20 bar (Manual Drain) 2,5 - 11 bar (Auto Drain)	
Regulating pressure (outlet)	0,5 - 10 bar	
Regulation	By hexagonal head screw with locking nut	
Hysteresis	< 0,32 bar	< 0,2 bar
Filtering capacity	25 µm & 5 µm	
Operating temperature (4)	-40°C to +90°C	
Low temperature option	-50°C	-60°C
Condensate Drain	Manual & Automatic	

((4) Operating temperature for Automatic Drain: +0°C to +60°C

CONSTRUCTION

	Compact	High Flow
Body, bonnet & bowl	AISI 316L SS	
	Bowl capacity = 25 cm^3	Bowl capacity = 75 cm^3
Filtering element	AISI 316 SS	
Diaphragm	LT FPM	LT FPM / HNBR
Elastomers	FPM	

PRODUCT CODE

342 A 8 0 0 1 AD

Product series
342

Revision letter
A = Initial release

F/R/FR type
8 = SS Filter Regulator (FR)
9 = Filter (F) (1)
A = Regulator (R) (1)

Pressure relief / vent hole
0 = Non relief diaphragm type (2)
2 = Ø M5 thread
4 = Ø 1/8 NPT

Certifications & approvals
0 = ATEX 1/21
1 = ATEX 1/21 + CUTR
2 = ATEX 1/21 + NACE (1)
3 = ATEX 1/21 + NACE + CUTR (1)

(1) *Not available for Compact version*
(2) *Bonnet with Ø 1/8 NPT thread*

Options
AD = Automatic Drain
AN = Automatic Drain with 1/8 NPT connection
D = Right-to-left flow sense
G = 316 SS pressure gauge
LT = Low Temperature (3)
MB = 316L SS Mounting Brackets (4)

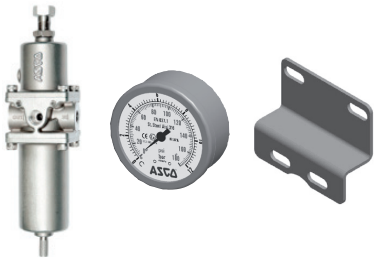
(3) *A special low temperature 316 SS pressure gauge will be delivered.*
(4) *Not mounted onto the product*

Filtration/port size
1 = High Flow 1/4 NPT 25 µm or Regulator only
2 = High Flow 1/4 G 25 µm or Regulator only
3 = High Flow 1/2 NPT 25 µm or Regulator only
4 = High Flow 1/2 G 25 µm or Regulator only
5 = High Flow 1/4 NPT 5 µm
6 = High Flow 1/4 G 5 µm
7 = High Flow 1/2 NPT 5 µm
8 = High Flow 1/2 G 5 µm
9 = Compact 1/4 NPT 25 µm
A = Compact 1/4 G 25 µm
B = Compact 1/4 NPT 5 µm
C = Compact 1/4 G 5 µm

NOTE: Please refer to our online configurator for option combinations availability

ORDERING EXAMPLE

1. High-Flow stainless steel Filter Regulator (1/4" NPT, 25 µm filtration) with auto drain, pressure gauge & mounting bracket
   • Product Code: 342A8201ADGMB
2. Compact low temperature stainless steel Filter Regulator (1/4" NPT, 25 µm filtration)with low temperature pressure gauge & mounting bracket
   • Product Code: 342A8209GLTMB



MAXIMUM FLOW VALUES

Construction Type	Maximum Flow Values Following ISO Standards 5782, 6358 and 6953	Compact		High Flow			
		l/min (ANR)					
		1/4		1/4		1/2	
		5 µm	25 µm	5 µm	25 µm	5 µm	25 µm
Filter	Inlet pressure = 6.3 bar and ΔP = 1 bar	-	-	1780	2600	1800	3300
Regulator	Inlet pressure = 10 bar, setpoint = 6.3 bar and ΔP = 1 bar	-	-	3120		7800	
Filter Regulator	Inlet pressure = 10 bar, setpoint = 6.3 bar and ΔP = 1 bar	1280	1400	2380	2450	3920	4430

80449GB-2016/R01

AUTO DRAIN	
	
	HIGH FLOW & COMPACT SSFR
Maximum inlet pressure	11 bar
Operating pressure	2.5 - 10 bar
Operating temperature	0°C to +60°C
Metal parts	316L SS
Elastomers	FPM
Float material	Thermoplastic polymer
Adaptor (316 SS) for 1/8 NPT conversion “AN” as option	

PRESSURE GAUGE		
		
	HIGH FLOW SSFR	**COMPACT SSFR**
Pressure	0 - 12 bar	0 - 10 bar
Diameter	Ø 63 mm	Ø 50 mm
Gauge port size	1/4" NPT	1/8" NPT
Material	316 Stainless Steel	
Protection	IP65; Safety glass; Fixed crimped case to avoid accidental dismounting	
Part number	C325316	C325937
Part number Low Temp. option	C325667	C325938

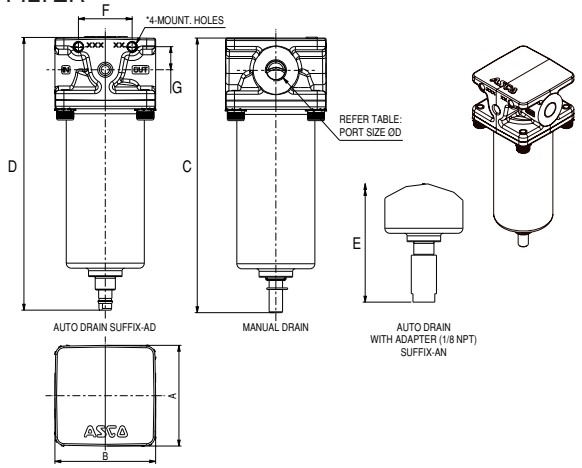
MOUNTING BRACKET		
		
	HIGH FLOW SSFR	**COMPACT SSFR**
Material	316L Stainless Steel	
Part number	C117813	C117877

INSTALLATION

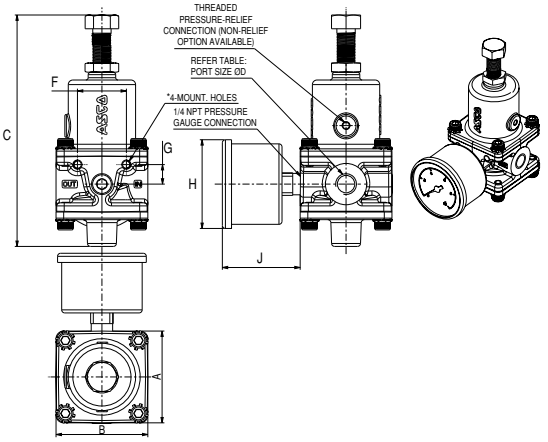
- Installation / Maintenance instructions are included with each Filter/Regulator
- Air flow direction indicated by IN/OUT as well as inlet & outlet indicators
- Pipe connection has standard thread according to NPT (ANSI 1.20.3)

DIMENSIONS(mm), WEIGHT(kg)

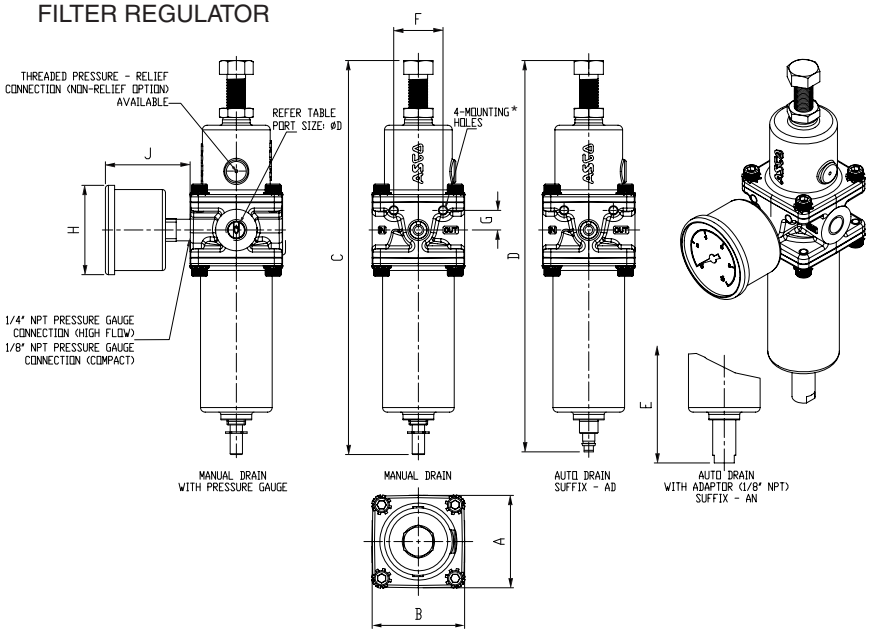
FILTER



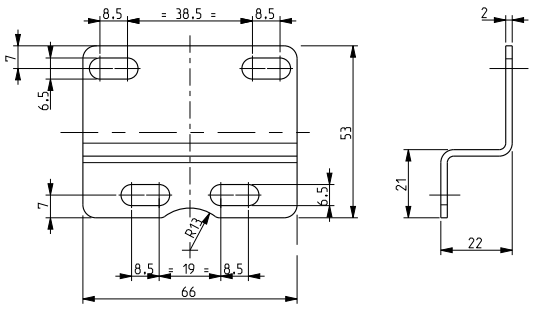
REGULATOR



FILTER REGULATOR



MOUNTING BRACKET



Note: Mounting hole size M6 for Hi-Flow SSFR and mounting hole size M5 for Compact SSFR

DIMENSIONS(mm), WEIGHT(kg)

	Type	ØD / NPT	Weight (kg)	A	B	C	D	E	F	G	H	J
HIGH FLOW	Filter	1/4	0,730	60	60	163,6	162,5	170,5	32	13,75	Ø67	51
		1/2			65							
	Regulator	1/4	1,232		60	151,3	-	-	32	12,75	Ø67	51
		1/2			65							
	Filter Regulator	1/4	1,980		60	256	254	261	32	12,75	Ø67	51
		1/2			65							
COMPACT	Filter Regulator	1/4	1,0	45	45	195	223	233	20	10	Ø53,5	48

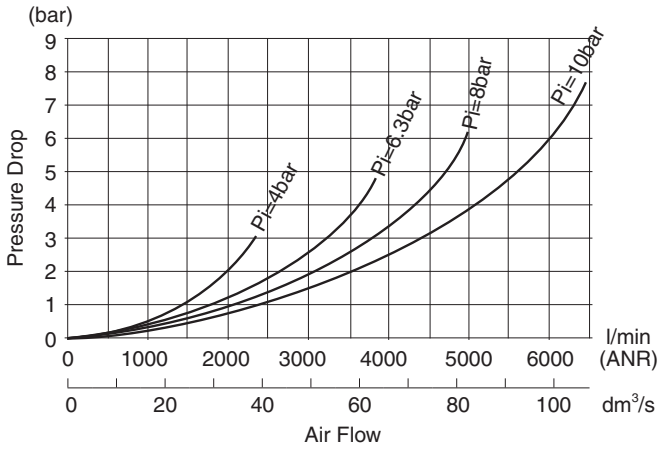
SPARE PARTS KITS

	Type	Filtering Capacity	Spare Parts Kit Number Standard	Spare Parts Kit Number Low Temp
HIGH FLOW	Filter	25 µm	C325309	
		5 µm	C325310	
	Regulator	-	C325311	C325993
	Filter Regulator	25 µm	C325305	C325994
		5 µm	C325307	C325995
COMPACT	Filter Regulator	25 µm	C325921	C325996
		5 µm	C325922	C325997

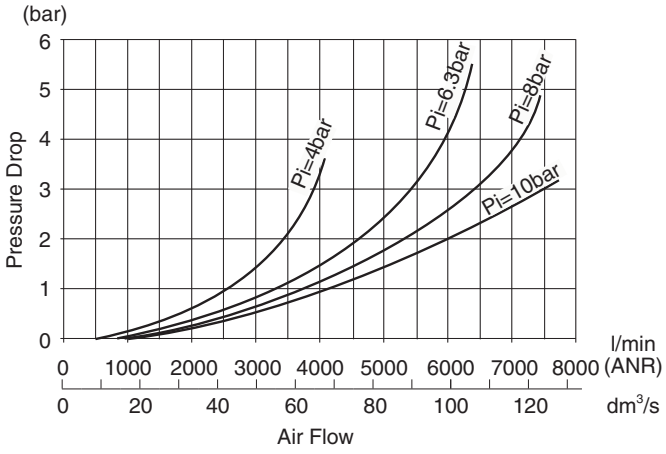
Option	Weight (kg)
Auto Drain	0,015
Adapter for Auto Drain	0,020
Pressure Gauge	0,164
Mounting Bracket	0,079

PRESSURE DROP vs. AIR FLOW CURVES

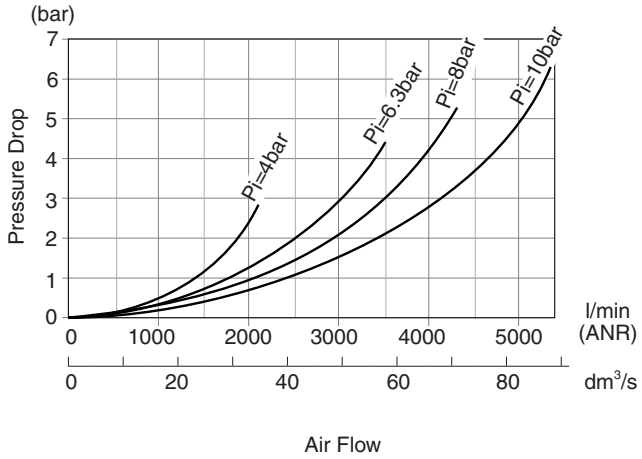
St. steel Filter 1/2 NPT Ref. : 342A9007
Filtration 5 µm with P inlet 4 - 6,3 - 8 - 10 bar



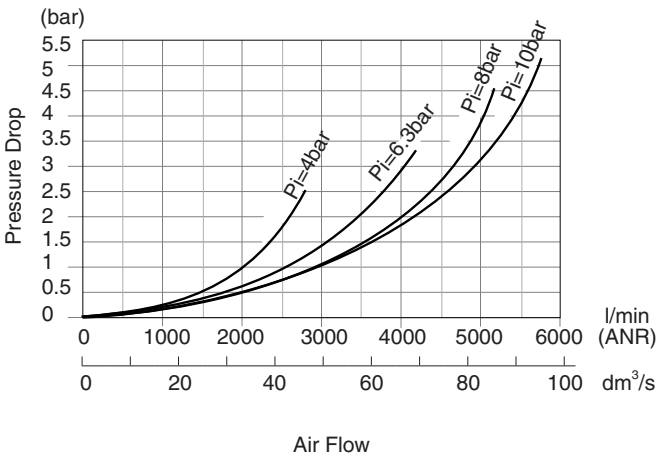
St. steel Filter 1/2 NPT Ref. : 342A9003
Filtration 25 µm with P inlet 4 - 6,3 - 8 - 10 bar



St. steel Filter 1/4 NPT Ref. : 342A9005
Filtration 5 µm with P inlet 4 - 6,3 - 8 - 10 bar

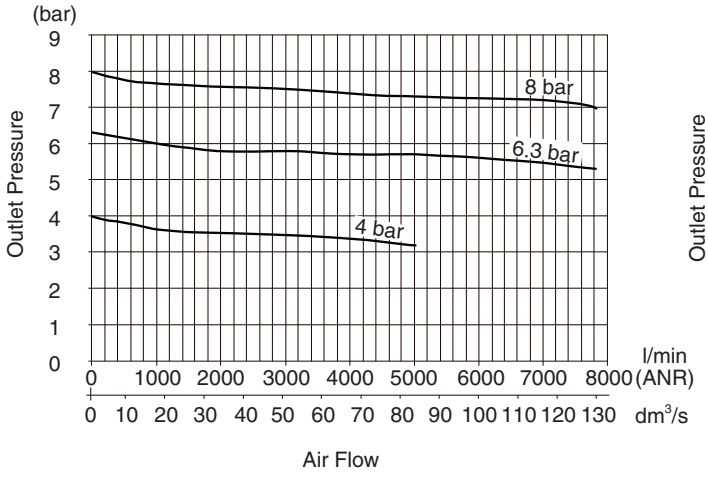


St. steel Filter 1/4 NPT Ref. : 342A9001
Filtration 25 µm with P inlet 4 - 6,3 - 8 - 10 bar

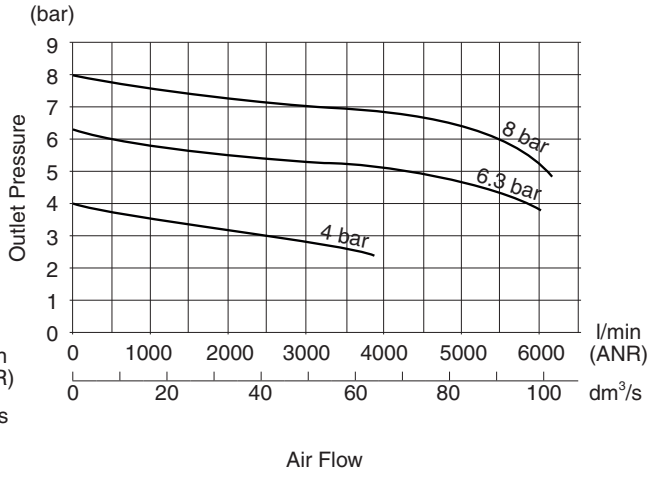


PRESSURE DROP vs. AIR FLOW CURVES

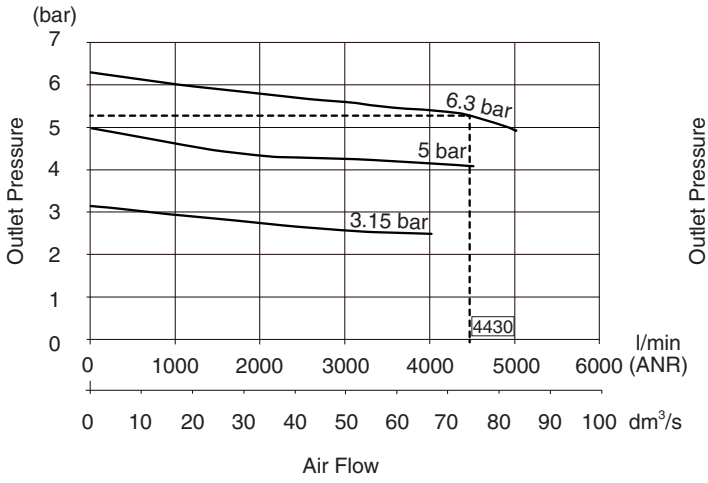
St. steel Regulator 1/2 NPT Ref. : 342AA403
P inlet 10 b - setpoint 4 - 6,3 - 8 bar



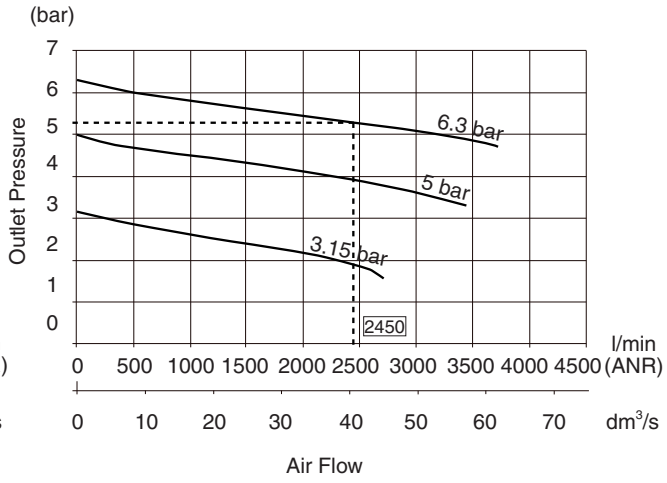
St. steel Regulator 1/4 NPT Ref. : 342AA401
P inlet 10 b - setpoint 4 - 6,3 - 8 bar



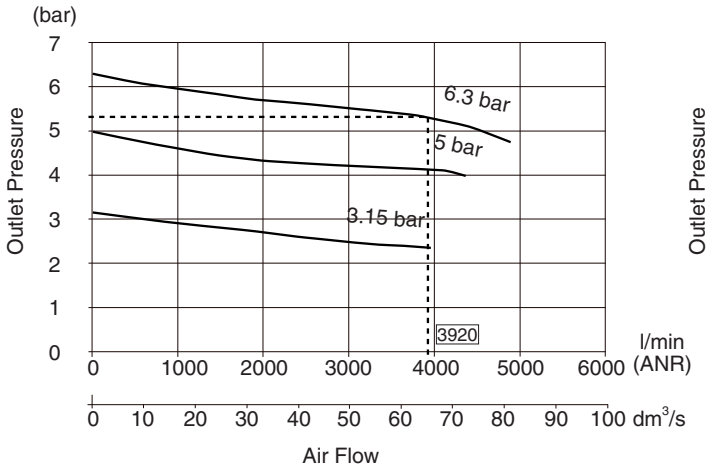
St. steel Filter Regulator 1/2 NPT Ref : 342A8203
Filtration 25 µm with P inlet 10 b - setpoint 3,15 - 5 - 6,3 bar



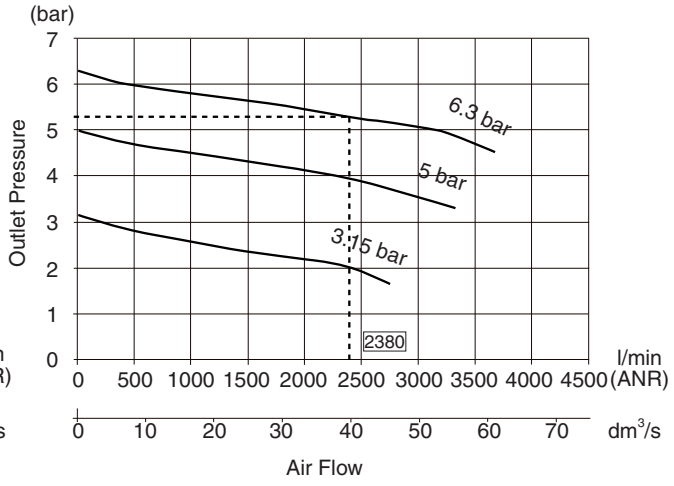
St. steel Filter Regulator 1/4 NPT Ref. : 342A8201
Filtration 25 µm with P inlet 10 b - setpoint 3,15 - 5 - 6,3 bar



St. steel Filter Regulator 1/2 NPT Ref : 342A8207
Filtration 5 µm with P inlet 10 b - setpoint 3,15 - 5 - 6,3 bar

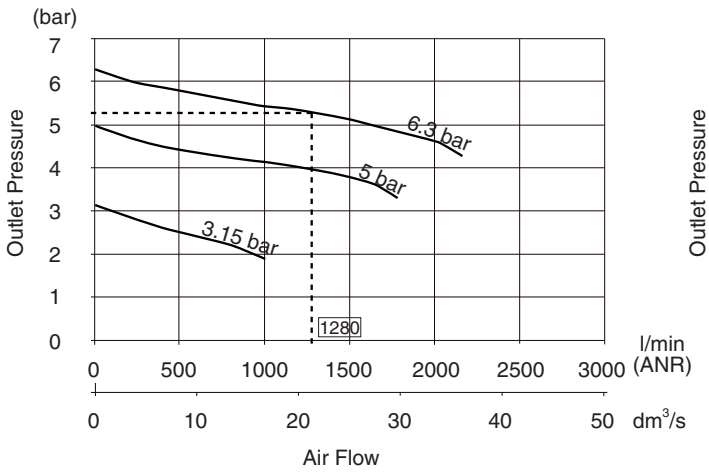


St. steel Filter Regulator 1/4 NPT Ref. : 342A8205
Filtration 5 µm with P inlet 10 b - setpoint 3,15 - 5 - 6,3 bar

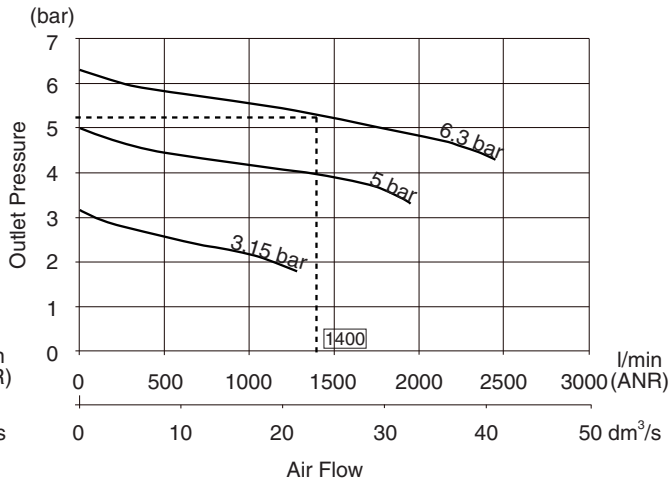


PRESSURE DROP vs. AIR FLOW CURVES

St. steel Filter Regulator 1/4 NPT Ref : 342A820B
Filtration 5 µm with P inlet 10 b - setpoint 3.15 - 5 - 6.3 bar



St. steel Filter Regulator 1/4 NPT Ref. : 342A8209
Filtration 25 µm with P inlet 10 b - setpoint 3.15 - 5 - 6.3 bar



ACCESSORIES

exhaust protector

M5, 1/8 .. 1/2

Series **346 977**

FEATURES

- *To be mounted on the exhaust port of a solenoid valve to protect internal parts from the environment*

GENERAL

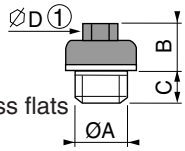
	Bronze	Stainless steel	Porous plastic
Differential pressure	0 to 10 bar	0 to 10 bar	0 to 10 bar
Fluid temperature range	-10°C to +70°C	-10°C to +70°C	-10°C to +70°C
Ambient temperature range	-10°C to +70°C	-10°C to +70°C	-10°C to +70°C
Load loss Minimum	Minimum	Minimum	

Differential pressure			
Body	Porous bronze	Sintered st. steel	Porous plastic
Connection piece	Brass	Nickel-plated brass	Plastic
Pipe size	G 1/8 or G 1/4	G-NPT 1/8 to 1/2, M5	G 1/8 to 1/2, M5

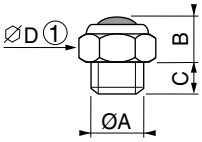
SPECIFICATIONS

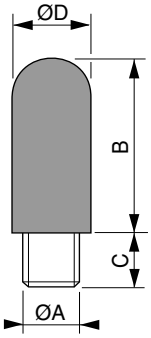
pipe size	catalogue number		
	Bronze (set of 2)	Sintered st. steel	Porous plastic
G 1/8	**97701875**	**34600418**	**34600406**
G 1/4	**97701876**	**34600419**	**34600407**
G 3/8	-	**34600478**	**34600408**
G 1/2	-	**34600479**	**34600409**
M5	-	**34600484**	**34600405**
NPT 1/8	-	**34600482**	-
NPT 1/4	-	**34600483**	-
NPT 3/8	-	**34600480**	-
NPT 1/2	-	**34600481**	-

DIMENSIONS (mm), WEIGHT (kg)



① D across flats





Porous bronze (set of 2)					
catalogue number	Ø A	B	C	D	weight
97701875	1/8	7	5	7	0,004
97701876	1/4	10	6	9	0,010

Sintered st. steel					
catalogue number	Ø A	B	C	D	weight
34600418/482	1/8	10	6	13	0,006
34600419/483	1/4	11	8	16	0,010
34600478/480	3/8	11	9	19	0,014
34600479/481	1/2	14	9	24	0,023
34600484	M5	4,5	3,2	8	0,001

Porous plastic					
catalogue number	Ø A	B	C	D	weight
34600406	1/8	27	6	13	0,002
34600407	1/4	34	7	15	0,004
34600408	3/8	55	11	18	0,006
34600409	1/2	62	12	23	0,010
34600405	M5	16	5	7	0,0005

CABLE GLANDS

for potentially explosive atmospheres
flameproof enclosure
II 2 G Ex d IIC, II 2 D Ex tb IIIC
for armoured and unarmoured cables, 1/2 NPT - 3/4 NPT

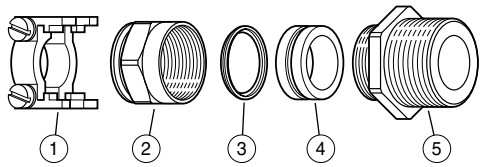
Series **882**

FEATURES

- *Explosionproof material intended for use in potentially explosive atmospheres according to ATEX-Directive 2014/34/EU*
  EC type examination certificate no.: ***INERIS 12 ATEX 0032 X***
  IECEx Certificate of Conformity no.: ***IECEx INE 12.0025 X***
- *Compliance with the Essential Health and Safety Requirements has been assured by compliance with the International and European Standards EN-IEC 60079-0, EN-IEC 60079-1 and EN-IEC 60079-31*
- *Cable glands for armoured and unarmoured cables can be fitted to Ex d operators*

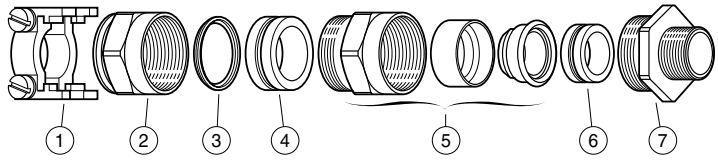
GENERAL

	1/2 NPT	3/4 NPT
Protection, unarmoured cable	IP68 (10 bar), on outer sheath	IP68 (10 bar), on outer sheath
Protection, armoured cable	IP68 (10 bar), on outer/inner sheath	IP68 (10 bar), on outer/inner sheath
	0 to 1,25 mm armour	-
Unarmoured cable	O.D. 6 to 12 mm	O.D. 8,5 to 16 mm
	O.D. 12 to 20,5 mm	-
Armoured cable	O.D. 8,5 to 16 mm	O.D. 12 to 21 mm
	I.D. 6 to 12 mm	I.D. 8,5 to 16 mm



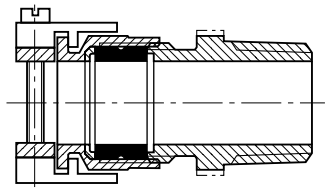
1/2 - 3/4 NPT, for unarmoured cable

1 cable clamp
2 nut
3 backup ring
4 grommet
5 adapter (1/2 or 3/4 NPT)

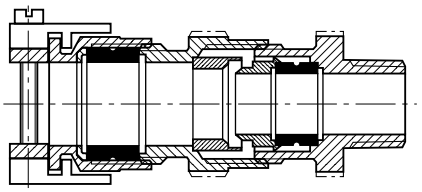


1/2 - 3/4 NPT, for armoured cable

1 cable clamp
2 nut
3 backup ring
4 grommet (internal sealing)
5 armour clamp
6 grommet (external sealing)
7 adapter (1/2 or 3/4 NPT)



unarmoured (1/2 - 3/4 NPT)



armoured (1/2 - 3/4 NPT)

CONSTRUCTION

Adapter	Nickel-plated brass
Grommet	NBR
Breaker piece	Stainless steel

SAFETY CODE

Ex II 2 G Ex d IIC
II 2 D Ex tb IIIC

SPECIFICATIONS

pipe size	cable		type	catalogue number	
	outer diameter (mm)	inner diameter (mm)		unarmoured cable	armoured cable
1/2 NPT and 3/4 NPT versions					
1/2 NPT	-	6 to 12	01	**88200011**	**-**
	6 to 12	8,5 to 16	02	**-**	**88200014**
3/4 NPT	-	8,5 to 16	01	**88200007**	**-**
	-	12 to 20,5	01	**88200010**	**-**
	12 to 21	8,5 to 16	02	**-**	**88200013**

ACCESSORIES

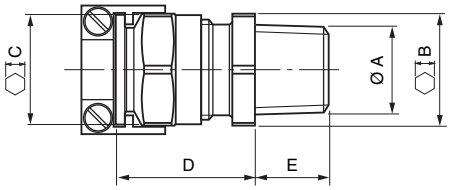
- 3/4 NPT to 1/2 NPT reducer, catalogue number: **88200012**
- Other cable glands on request

INSTALLATION

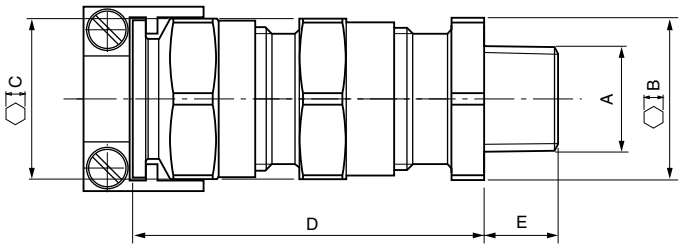
- The cable gland can be supplied pre-installed on Ex d enclosure

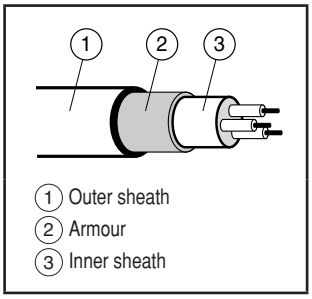
DIMENSIONS (mm), WEIGHT (kg)

TYPE 01
1/2 - 3/4 NPT
Unarmoured cable



TYPE 02
1/2 - 3/4 NPT
Armoured cable





type	Ø A	B	C	D	E	weight
01	1/2 NPT	24	19	30	16	0,04
	3/4 NPT (1)	30	24	33	16	0,055
	3/4 NPT (2)	30	30	35	16	0,07
02	1/2 NPT	24	24	50	16	0,09
	3/4 NPT	30	30	54	16	0,17

(1) Catalogue number: 88200007
(2) Catalogue number: 88200010

ASCO™

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