

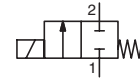
SPECIAL FLUIDS HOT WATER AND STEAM

Product Index



Function	ΔP		Temperature		Pipe connections	Series	Page
	min. (bar)	max. (bar)	min. (°C)	max. (°C)			
SOLENOID VALVES, BRASS BODY							
2/2 NC	0	6	-20	+160/165	1/4 - 3/8	263	1
2/2 NC	0/0,3	10	-20	+177	3/8 .. 1	220	5
2/2 NC	0	9	-20	+150	3/8 .. 3/4	222	9
2/2 NC	0,35	10	-20	+184	1 1/4 .. 2	220	11
PRESSURE OPERATED VALVES, BRONZE BODY							
2/2 NC-NO	0	16	-10	+184	3/8 .. 2 1/2	E290	13
2/2 NC-NO	0	16	-10	+184	Flanged DN 25 .. 50	T290	13
2/2 NC-NO	0	16	-10	+184	1/2 .. 2	165 (AD/TBT)	15
2/2 NC	0	16	-10	+184	Flanged DN 15 .. 80	165 (AD/BBT)	15
3/2 NC-NO	0	16	-10	+184	1/2 .. 2	E390	13
3/2 NO	0	16	-10	+184	1/2 .. 2	166 (AD/TBT)	15
PRESSURE OPERATED VALVES, STAINLESS STEEL BODY							
2/2 NC-NO	0	16	-10	+184	3/8 .. 2 1/2	E290	13
2/2 NC-NO	0	16	-10	+184	External thread 1/2 .. 1	U290	13
2/2 NC-NO	0	16	-10	+184	External thread, food connections DIN 11851 Rd 28x8 .. 44x6	Y290	13
2/2 NC-NO	0	16	-10	+184	Clamp / butt welding DN 10 .. 65	S290	13
2/2 NC-NO	0	40	-25	+250	1/2 .. 2	E298	14
2/2 NC-NO	0	40	-25	+250	Flanged (DIN and ANSI Class 300) DN 15..50	T298	14
2/2 NC-NO	0	40	-25	+250	Socket welding ends DN 15..50	S298	14
3/2 U	0	40	-25	+250	1/2 .. 2	E398	14
3/2 U	0	40	-25	+250	Flanged (DIN and ANSI Class 300) DN 15..50	T398	14
3/2 U	0	40	-25	+250	Socket welding ends DN 15..50	S398	14
2/2 NC-NO	0	24	-10	+240	External thread M25x1,5..M36x2	R298	17
2/2 NC-NO	0	24	-10	+240	Pad mounting DN 10 .. 32	R298	19

pipe connections			body material		max. operating pressure differential (bar)		fluid temperature range		power coil		series	page																					
<ul style="list-style-type: none"> - internal thread - external thread - butt welding - ext. thread DIN 11851 - socket welding ends 			<ul style="list-style-type: none"> - flanged - clamp - pad mounting 																														
1/4	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	brass	cast iron	stainless steel	st. steel, AISI 316L	orifice size (mm)	DN	min. operating pressure differential (bar)	hot water	steam	hot water	steam	hot water	steam	superheated water	max. allowable pressure (bar)	min.	max. AC (~)	max. DC (=)	max.	AC (~)	DC (=)	series	page		
3/8 (M25x1.5)	1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3	brass	cast iron	stainless steel	st. steel, AISI 316L	4	4	0	14,5	7,6	-	-	-	-	-	-	-20	+165	-	-	10,1	-				
1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3					5,6	5,6	0	6,6	4,8	-	-	-	-	-	-	-20	+160	-	-	10,1	-	263	1			
3/8 (M25x1.5)	1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3				12,7	19	0	10	3	6,9	3,4	-	-	-	-	-20	+147	+177	-	10,1	15,6	220	5			
3/8 (M25x1.5)	1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3				25	25	0,3	10	3	-	-	-	-	-	-	-20	+147	-	-	10,1	-					
3/8 (M25x1.5)	1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3				16	19	0	-	3,5	-	3,5	-	-	-	-	-20	+150	+150	-	10,5	16,8	222	9			
3/8 (M25x1.5)	1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3				25	32	0	9	2	-	-	-	-	-	-	-20	+130	+130	-	15,4	-					
3/8 (M25x1.5)	1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3				28	44	0,35	10	3,5	-	3,5	-	-	-	-	-20	+150	+150	-	10,5	16,8	220	11			
3/8 (M25x1.5)	1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3				28	44	0,35	10	-	-	-	-	-	-	-	-20	+184	-	-	10,5	-					
2/2 SOLENOID VALVES - NORMALLY CLOSED (NC)																																	
2/2 PRESSURE OPERATED VALVES - NORMALLY CLOSED (NC) AND NORMALLY OPEN (NO)																																	
1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3					10	65	0	-	-	-	16	10	-	16	-10	-	-	+184	-	-	E290	U290	Y290	S290	T290	13
1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3					15	50	0	-	-	-	24	24	24	40	-25	-	-	+223	-	-	E298	T298	S298		14	
1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3					15	50	0	-	-	-	16	10	-	16	-10	-	-	+184	-	-	165			15		
1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3					10	20	0	-	-	-	24	24	24	40	-10	-	-	+223	-	-	R298			17		
1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3					10	32	0	-	-	-	24	24	24	40	-10	-	-	+223	-	-	R298			19		
3/2 PRESSURE OPERATED VALVES - NORMALLY CLOSED (NC) AND NORMALLY OPEN (NO)																																	
1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3					15	50	0	-	-	-	16	10	-	16	-10	-	-	+184	-	-	E390			13		
3/2 PRESSURE OPERATED VALVES - UNIVERSAL (U)																																	
1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3					15	50	0	-	-	-	24	24	24	40	-25	-	-	+223	-	-	E398	T398	S398	14		
3/2 PRESSURE OPERATED VALVES - NORMALLY OPEN (NO)																																	
1/2 (M30x2)	3/4 (M30x2)	1	1 1/4	1 1/2	2	2 1/2	3					15	50	0	-	-	-	16	10	-	16	-10	-	-	+184	-	-	166			15		



FEATURES

- Direct acting valves with stainless steel seat ensure a long continuous cycling life in severe steam applications
- The solenoid valves have forged brass bodies, compact design, to minimize heat radiation parts
- Valves do not require a minimum operating pressure
- RoHS compliance
- Compliance with UL and CSA standards
- The solenoid valves satisfy all relevant EU Directives

GENERAL

Differential pressure See «SPECIFICATIONS» [1 bar =100 kPa]
Response time 5 - 25 ms

fluids (*)	temperature range (TS)	seal materials (*)
hot water, steam	-20°C to +160/165°C	PTFE

CONSTRUCTION

MATERIALS IN CONTACT WITH FLUID	
(*) Ensure that the compatibility of the fluids in contact with the materials is verified	
Body	Brass
Shading coil	Copper
Core tube	Stainless steel, AISI 305
Core and plugnut	Stainless steel, AISI 430F
Springs	Stainless steel, AISI 302
Seal	PTFE
Disc	PTFE

ELECTRICAL CHARACTERISTICS

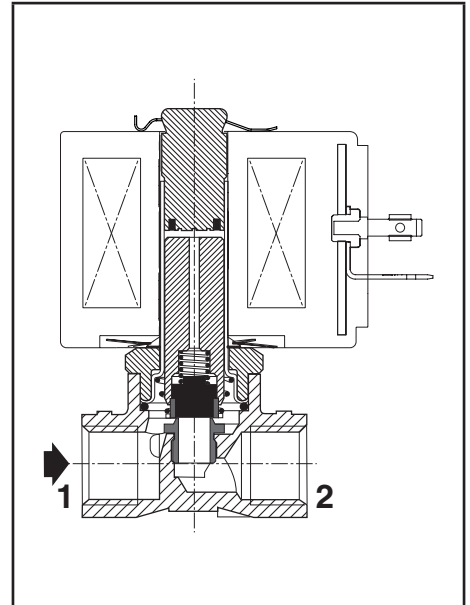
Coil insulation class	H (AC)
Connector	Spade plug (cable Ø 6-10 mm)
Connector specification	ISO 4400 / EN 175301-803, form A
Electrical safety	IEC 335
Electrical enclosure protection	Moulded IP65 (EN 60529)
Standard voltages	
(Other voltages and 60 Hz on request)	AC (~) : 24V - 48V - 115V - 230V/50 Hz

operator ambient temperature range (TS) (°C)	power ratings				replacement coil ⁽¹⁾	
	inrush ~ (VA)	holding ~ (VA) (W)		hot/cold = (W)	~ 230 V/50 Hz	= 24 V DC
0 to +55	50	25	10,1	-	238813-059	-

⁽¹⁾ All 238 basic numbers are UL & CSA approved and marked with the UR (recognised component) & CSA logos.

OPTIONS

Connector with visual indication and peak voltage suppression or with cable length of 2 m (www.asco.com)

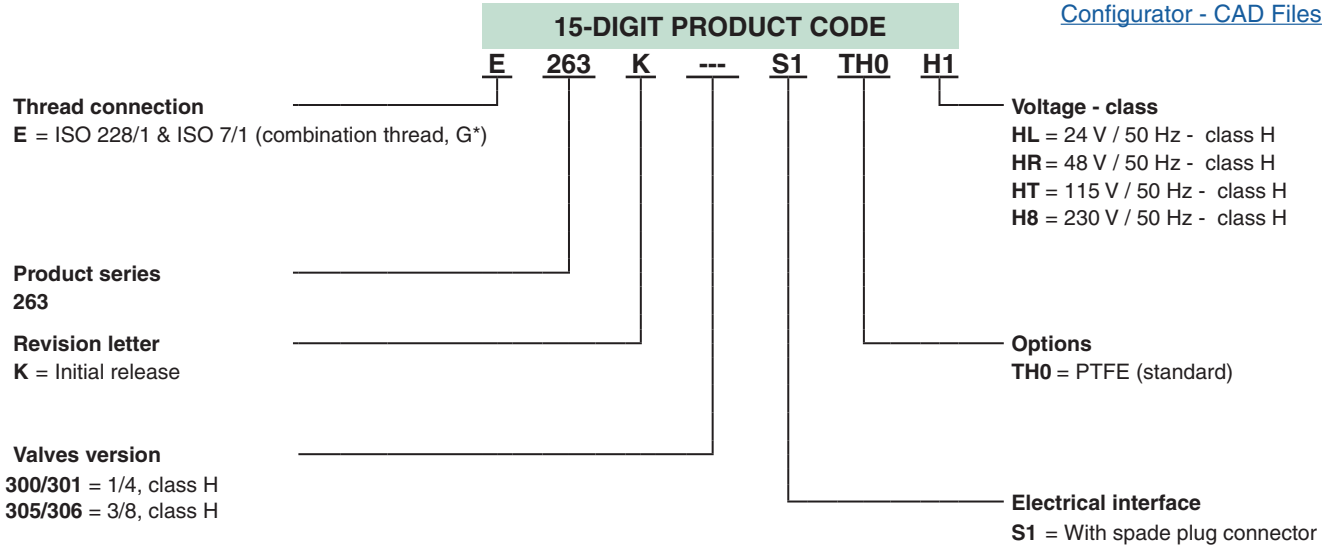


SPECIFICATIONS

pipe size	orifice size (mm)	flow coefficient Kv (m ³ /h) (l/min)		operating pressure differential (bar)				max. fluid temp. (°)	class	power coil (W)	thread type	dimensions / type (1)	15-DIGIT PRODUCT CODE					
				min.	max. (PS)		brass						voltage code					
					steam (*)	water (*) (2)							24 V/50 Hz	48 V/50 Hz	115 V/50 Hz	230 V/50 Hz	.	.
WITHOUT MANUAL OPERATOR																		
NC - Normally closed																		
1/4	4	0,45	7,5	0	7,6	14,5	165	H	10,1	G*	01	E263K300S1TH0	HL	HR	HT	H8	-	-
	5,6	0,45	7,5	0	4,8	6,6	160	H	10,1	G*	01	E263K301S1TH0	HL	HR	HT	H8	-	-
3/8	4	0,63	10,5	0	7,6	13,8	165	H	10,1	G*	01	E263K305S1TH0	HL	HR	HT	H8	-	-
	5,6	0,63	10,5	0	4,8	6,6	160	H	10,1	G*	01	E263K306S1TH0	HL	HR	HT	H8	-	-

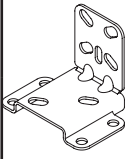
(1) For dimensions, see drawing(s) for each construction type on the following page(s).
 (2) Water temperature should not exceed 100°C.

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



SPARE PARTS KITS CODE (*)			
AC (-)			PTFE
	E263K300	M200045	TH0
	E263K301	M200050	TH0
	E263K305	M200045	TH0
	E263K306	M200050	TH0

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

		ACCESSORIES CODE
	Mounting bracket Steel version (AISI 1010 / 1.1121)	M200094A00
	Mounting bracket Stainless steel version (AISI 304 / 1.4301)	M200095A00

INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation
- Solenoid valves have 2 mounting holes in body
- Thread connection “E” have standard thread according to ISO 228/1 and ISO 7/1
- Installation/maintenance instructions are included with each valve

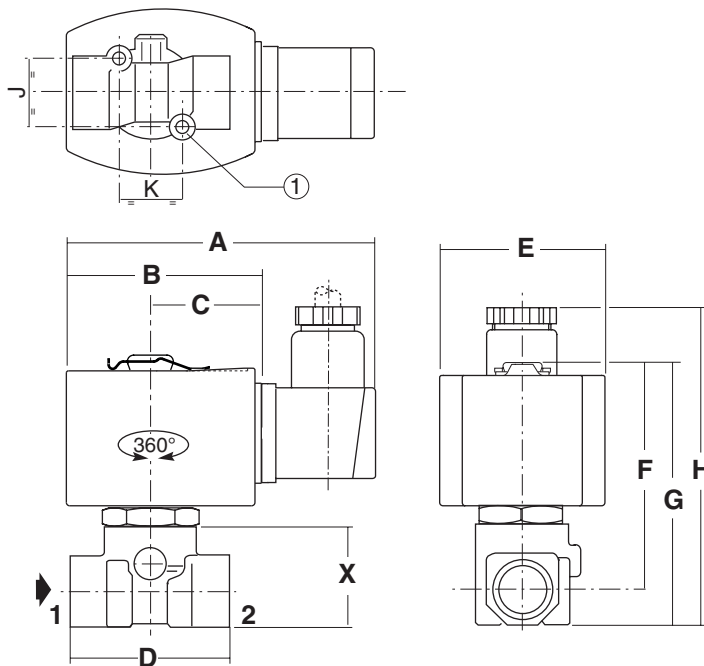
DIMENSIONS (mm), WEIGHT (kg)

[Configurator - CAD Files](#)



TYPE 01

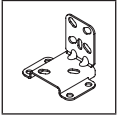
Electrical interface “S1”
Epoxy moulded
IEC 335 / ISO 4400
IP65



type	pipe size	A	B	C	D	E	F	G	H	X	weight ⁽¹⁾
01	1/4	95	57	33	40	50	65	75	92	30	0,61
	3/8	95	57	33	48	50	64	76	93	32	0,63

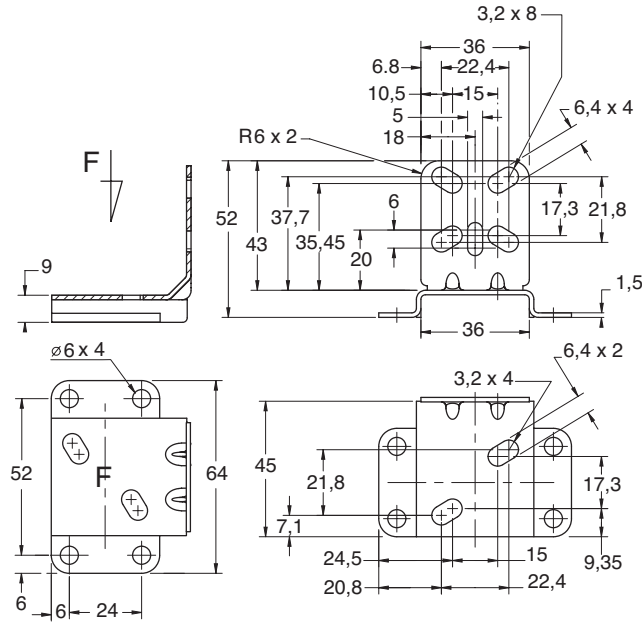
① 2 mounting holes M5 dia., depth 6 mm.

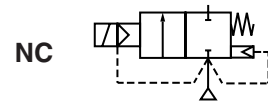
⁽¹⁾ Incl. coil(s) and connector(s).



Mounting bracket
Steel or stainless steel

M200094A00 / M200095A00





FEATURES

- Small compact sized valves particularly designed for hot water and steam, compatible with the seal materials used
- For high temperature applications found in laundries, molding, steam atomization, sterilizers, autoclaves,...
- All products are covered by the Pressure Equipment Directive 2014/64/EU and are suitable for group 1 and 2 fluids
- The solenoid valves satisfy all relevant EU Directives and with the provisions of the Directive RoHS 2

GENERAL

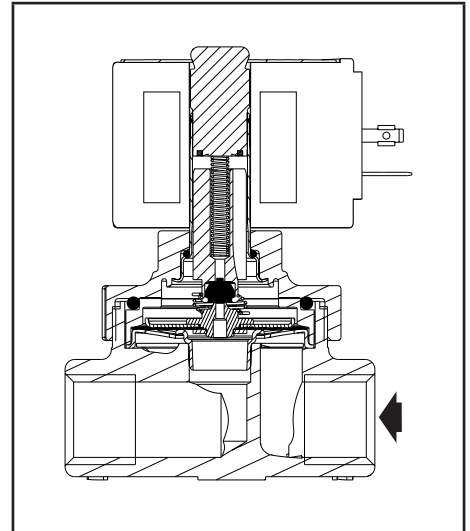
Differential pressure See «SPECIFICATIONS» [1 bar =100 kPa]
Response time 70 - 120 ms

fluids (*)	temperature range (TS)	seal materials (*)
hot water	-20°C to +98°C	PTFE
steam	-20°C to +147°C (class F / class H, DC)	
	-20°C to +173°C (class H, DC)	
	-20°C to +177°C (class H, AC)	



CONSTRUCTION

MATERIALS IN CONTACT WITH FLUID	
(*) Ensure that the compatibility of the fluids in contact with the materials is verified	
Body	Brass
Shading coil	Copper
Core tube	Stainless steel, AISI 305
Core and plugnut	Stainless steel, AISI 430F
Springs	Stainless steel, AISI 302
Diaphragm assembly	PTFE, stainless steel
Seal	PTFE
Disc	PTFE

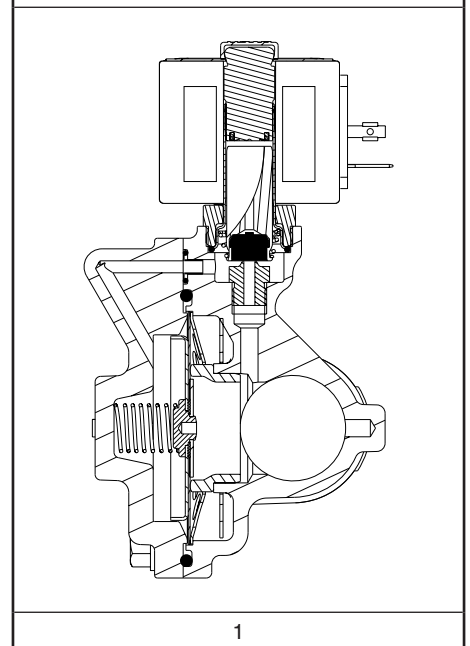


3/8 to 3/4

ELECTRICAL CHARACTERISTICS

Coil insulation class	F (AC) or H (AC/ DC)
Connector	Spade plug (cable Ø 6-10 mm)
Connector specification	ISO 4400 / EN 175301-803, form A
Electrical safety	IEC 335
Electrical enclosure protection	Moulded IP65 (EN 60529)
Standard voltages	DC (=) : 24V - 48V
(Other voltages and 60 Hz on request)	AC (~) : 24V - 48V - 115V - 230V/50 Hz

operator ambient temperature range (TS) (°C)	class	power ratings				replacement coil	
		inrush ~ (VA)	holding ~ (W)		hot/cold = (W)	~	=
0 to +52	F	50	25	10,1	-	238613-059	-
	H	-	-	-	15,1/15,6	-	238913-206
0 to +60	H	50	25	10,1	-	238813-059	-



1

OPTIONS

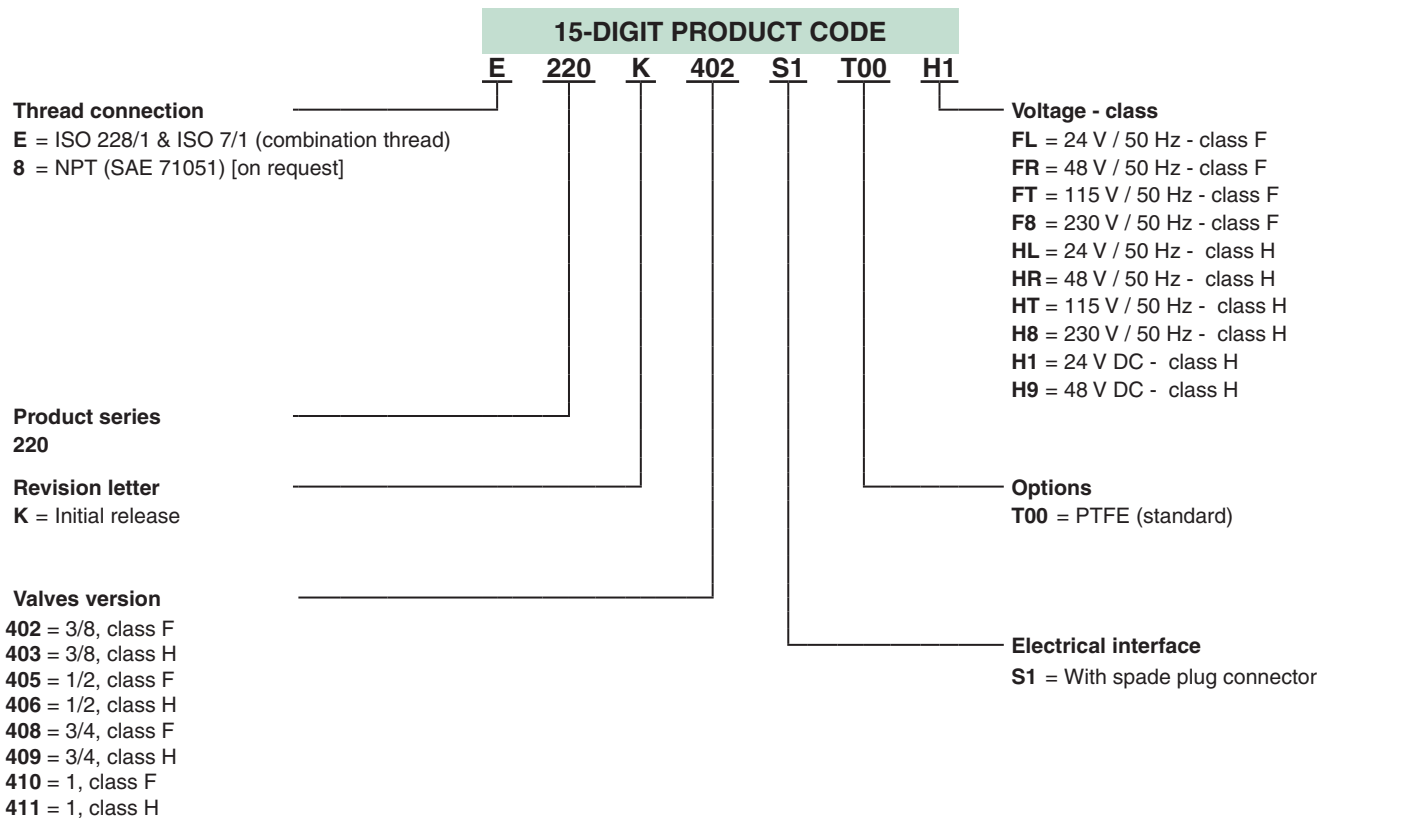
Connector with visual indication and peak voltage suppression or with cable length of 2 m (www.asco.com)

SPECIFICATIONS

pipe size	orifice size (mm)	flow coefficient Kv (m³/h) (l/min)		operating pressure differential (bar)				max. fluid temp. (°C)	class	power coil (W)		thread type	dimensions / type (1)	15-DIGIT PRODUCT CODE							
				max. (PS)						brass	voltage code										
				steam (*)		water (*)					24 V/50 Hz			48 V/50 Hz	115 V/50 Hz	230 V/50 Hz	24 V/DC	48 V/DC			
				min.	~	=	~												=		
WITHOUT MANUAL OPERATOR																					
NC - Normally closed																					
3/8	12,7	3,8	63,3	0	3	3,4	10	6,9	147	F	10,1	-	G*	01	E220K402S1T00	FL	FR	FT	F8	-	-
				H	-	15,6	-	-	H1	H9											
				0,3	9	-	10	-	177	H	10,1	-	G*	01	E220K403S1T00	HL	HR	HT	H8	-	-
				-	7,5	-	10	173	H	-	15,6	-				H1	H9				
1/2	12,7	4	66,6	0	3	3,4	10	6,9	147	F	10,1	-	G*	01	E220K405S1T00	FL	FR	FT	F8	-	-
				H	-	15,6	-	-	H1	H9											
				0,3	9	-	10	-	177	H	10,1	-	G*	01	E220K406S1T00	HL	HR	HT	H8	-	-
				-	7,5	-	10	173	H	-	15,6	-				H1	H9				
3/4	19	7,5	125	0	3	3,4	10	6,9	147	F	10,1	-	G*	01	E220K408S1T00	FL	FR	FT	F8	-	-
				H	-	15,6	-	-	H1	H9											
				0,3	9	-	10	-	177	H	10,1	-	G*	01	E220K409S1T00	HL	HR	HT	H8	-	-
				-	7,5	-	10	173	H	-	15,6	-				H1	H9				
1	25	10	166,6	0,3	3	-	10	-	147	F	10,1	-	G*	02	E220K410S1T00	FL	FR	FT	F8	-	-
					9	-	10	-	177	H	10,1	-				G*	02	E220K411S1T00	HL	HR	HT

(1) For dimensions, see drawing(s) for each construction type on the following page(s).

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



1..5 / 11..16 / 21..32 = Supplied in spare part kit.


		SPARE PARTS KITS CODE (*)				
		AC (-)		DC (=)		
			PTFE		PTFE	
	1	E220K402S1T00FL/FR/FT/F8	M200307	T00	-	-
	2	E220K402S1T00H1/H9	-	-	M200308	T00
	3	E220K405S1T00FL/FR/FT/F8	M200307	T00	-	-
	4	E220K405S1T00H1/H9	-	-	M200308	T00
	5	E220K408S1T00FL/FR/FT/F8	M200310	T00	-	-
		E220K408S1T00H1/H9	-	-	M200311	T00
	11	E220K403S1T00FL/FR/FT/F8	M200309	T00	-	-
	12					
	13	E220K406S1T00FL/FR/FT/F8	M200309	T00	-	-
	21	E220K410S1T00FL/FR/FT/F8	M200313	T00	-	-
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31	E220K411S1T00FL/FR/FT/F8	M200314	T00	-	-
	32					

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

INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation. For optimum performance mount solenoid vertical and upright
- Pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1
- Installation/maintenance instructions are included with each valve

01043GB-2017/R01
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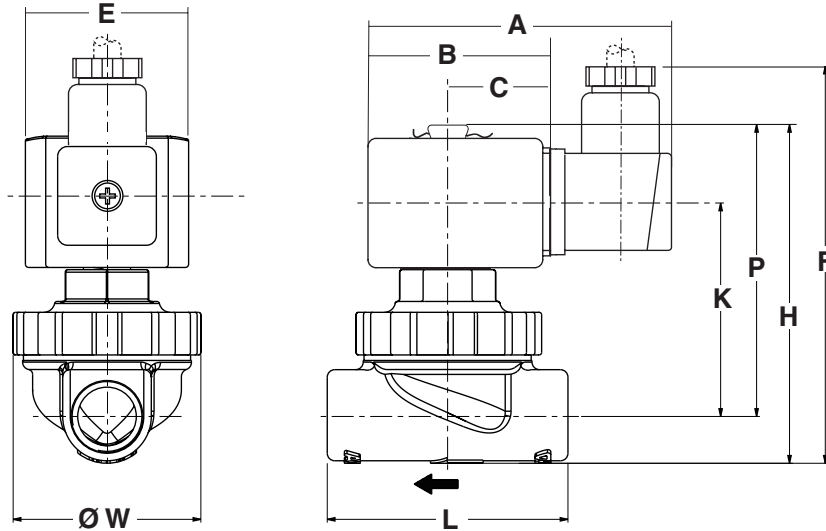
DIMENSIONS (mm), WEIGHT (kg) 



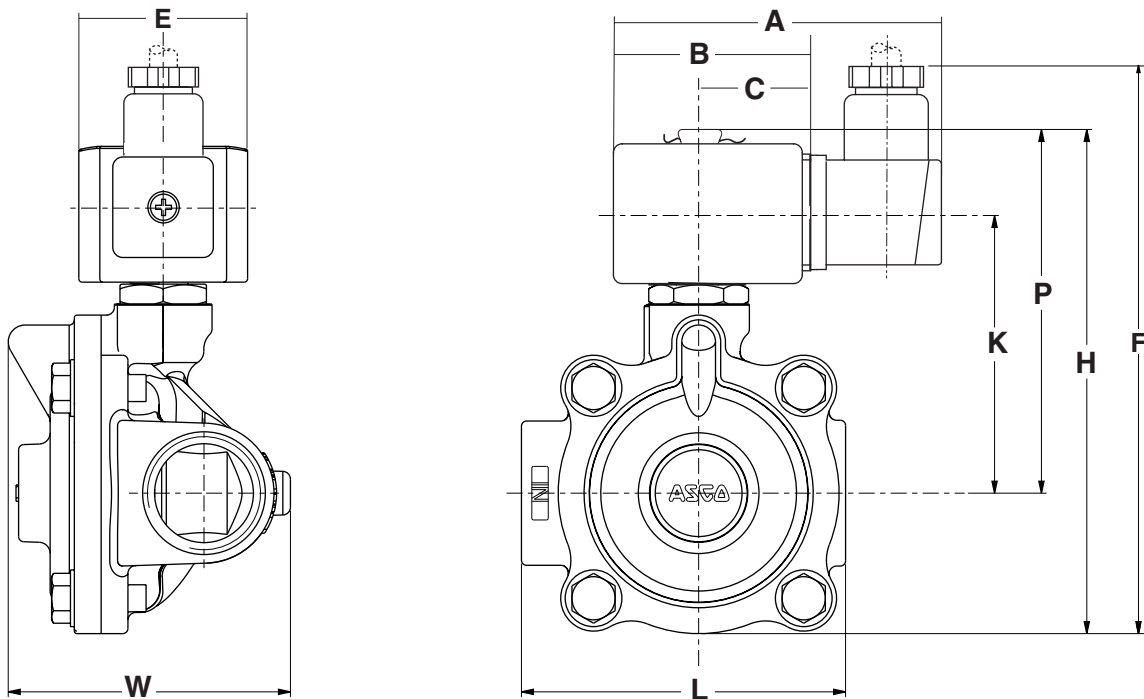
TYPE 01

Electrical interface "S1"
Epoxy moulded
IEC 335 / ISO 4400
IP65

E220K402/403/405/406/408/409.....



E220K410/411.....



pipe size	A	B	C	E	F	H	K	L	P	W	weight ⁽¹⁾
3/8 - 1/2	91	51	30	50	132	104	65	73	90	57	0,875
3/4	95	57	33	50	134	106	64	73	89	72	0,875
1	96	59	34	50	180	148	82	95	106	83	2,013

⁽¹⁾ Incl. coil(s) and connector(s).

All leaflets are available on: www.asco.com

FEATURES

- Reliable control in low pressure, high flow systems
- Valves do not require a minimum operating pressure
- The solenoid valves are constructed packless with a one-piece deepdrawn stainless steel core tube, ensuring safe operation of electrical and wetted moving parts
- The valves have forged brass bodies, compact design, to minimize heat radiation loss
- Hung diaphragm construction
- The solenoid valves satisfy all relevant EU Directives

GENERAL

Differential pressure See «SPECIFICATIONS» [1 bar = 100 kPa]
Response time 15 - 60 ms

fluids (*)	temperature range (TS)	seal materials (*)
hot water, steam	- 20°C to + 130/150°C	EPDM (ethylene-propylene)

MATERIALS IN CONTACT WITH FLUID

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

Body	Brass
Core tube	Stainless steel
Core and plugnut	Stainless steel
Springs	Stainless steel
Seat	Brass
Seal, diaphragm & disc	EPDM
Shading coil	Copper

ELECTRICAL CHARACTERISTICS

Coil insulation class F
Connector Spade plug (cable Ø 6-10 mm)
Connector specification ISO 4400 / EN 175301-803, form A
Electrical safety IEC 335
Electrical enclosure protection Moulded IP65 (EN 60529)
Standard voltages DC (=) : 24V - 48V
 (Other voltages and 60 Hz on request) AC (~) : 24V - 48V - 115V - 230V / 50 Hz

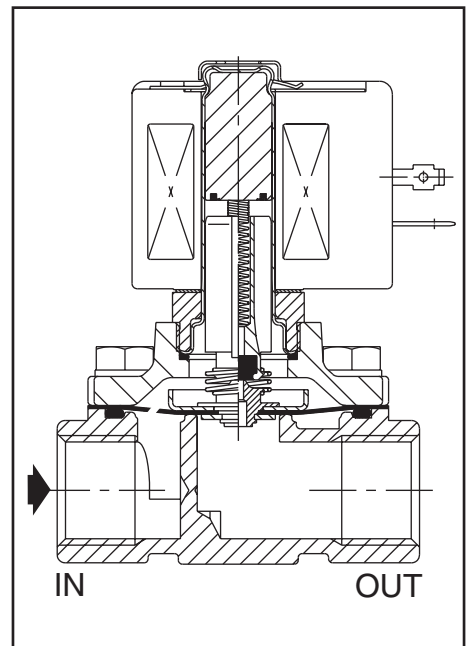
prefix option	power ratings			operator ambient temperature range (TS) (C°)	replacement coil		type ⁽¹⁾
	inrush ~	holding ~	hot/cold =		~	=	
	(VA)	(VA) (W)	(W)		230 V/50 Hz	24 V DC	
SC	55	23	10,5	-	-	-	01
	110	33,6	15,4	12/16,8	-20 to + 40	400425-117 400525-117	02

⁽¹⁾ Refer to the dimensional drawings on the following page.

SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)				max. fluid temp. (°C)		power coil (W)		catalogue number	
				max. (PS)									
				steam (*)		water (*) ⁽²⁾							
Rp	(mm)	(m³/h)	(l/min)	min.	~	=	~	=	~	=			
NC - Normally closed													
3/8	16	2,6	43,3	0	3,5	3,5	-	-	150	150	10,5	16,8	SCE222B093
1/2	16	3,5	58,3	0	3,5	3,5	-	-	150	150	10,5	16,8	SCE222B094
3/4	19	4,3	71,1	0	3,5	3,5	-	-	150	150	10,5	16,8	SCE222B095
1	25	11,1	185	0	2	-	9	-	130	130	15,4	-	SCE222B154
1 1/4	28	12,8	213,3	0	2	-	9	-	130	130	15,4	-	SCE222B155
1 1/2	32	19,3	321,6	0	2	-	9	-	130	130	15,4	-	SCE222B156

⁽²⁾ Water temperature should not exceed 100°C.



OPTIONS

- Waterproof enclosure with embedded screw terminal coil according to protection class IP67, CEE-10
- Electrical enclosures according to "NEMA" standards are available
- Compliance with "UL", "CSA" and other local approvals available on request
- Mounting brackets (3/8, 1/2 and 3/4 only), suffix MB
- Other pipe connections are available on request
- Connector with visual indication and peak voltage suppression or with cable length of 2 m (www.asco.com)

INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation
- Pipe connection identifier is E = Rp (ISO 7/1)
- Installation/maintenance instructions are included with each valve

SPARE PARTS KIT & ACCESSORIES

catalogue number	spare parts kit no.		mounting bracket no.
	~	=	
SCE222B093/094	C304031	C132654	038713-000
SCE222B095	C123858	C132655	038713-000
SCE222B154/155	C133839	-	-
SCE222B156	C133840	-	-

- Not available.

ORDERING EXAMPLES:

SC	E	222	B	093	230V / 50 Hz
SC	E	222	B	154	115V / 50 Hz
SC	E	222	B	094	24V / DC
SC	E	222	B	155	230V / 50 Hz

prefix — pipe thread — basic number — voltage — suffix

ORDERING EXAMPLES KITS:

	C304031	
	C132654	

basic number — suffix

DIMENSIONS (mm), WEIGHT (kg)



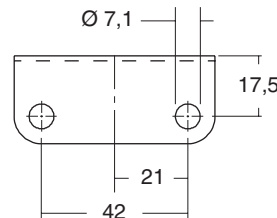
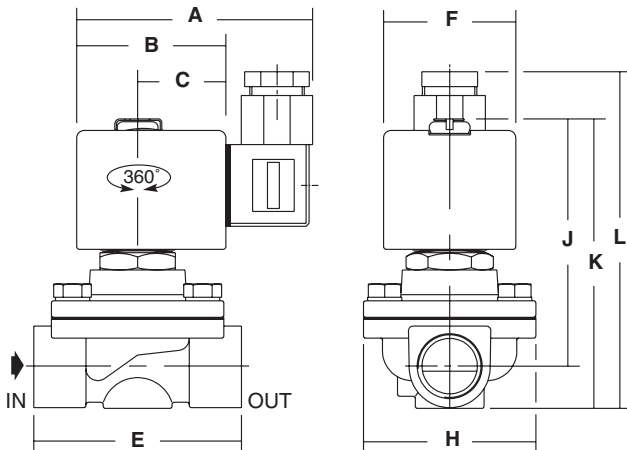
TYPE 01-02

Prefix "SC" Solenoid
Epoxy moulded
IEC 335 / ISO 4400
IP65

Type 01 (AC): SCE222B093/094/095

Type 02 (DC): SCE222B093/094/095

(AC): SCE222B154/155/156



Mounting brackets
for valves:
SCE222B093
SCE222B094
SCE222B095

type	prefix option	catalogue number	A	B	C	E	F	H	J	K	L	weight ⁽¹⁾
01	SC	SCE222B093/094	80	50	30	70	45	58	84	96	113	1,2
		SCE222B095	80	50	30	71	45	58	87	104	121	1,3
02	SC	SCE222B093/094	86	56	33	70	50	58	91	103	105	1,4
		SCE222B095	86	56	33	71	50	58	94	111	113	1,5
		SCE222B154	86	56	33	95	50	83	110,5	131	132	2,0
		SCE222B155	86	56	33	95	50	83	117	141,5	142,5	2,0
		SCE222B156	86	56	33	111	50	99	122,5	151	152	2,6

⁽¹⁾ including coil and connector.

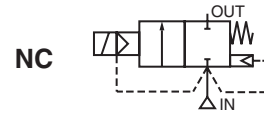
All leaflets are available on: www.asco.com

10 - Hot Water & Steam



SOLENOID VALVES

pilot operated, floating piston
for hot water/steam applications
1 1/4 to 2



2/2
Series
220

FEATURES

- Small compact sized valves particularly designed for hot water and steam, compatible with the seal materials used
- Lightweight stamped steel pistons giving all-round support to resilient, tight seal discs
- Valves require a minimum operating pressure of 0,35 bar
- All products are covered by the Pressure Equipment Directive 2014/64/EU and are suitable for group 1 and 2 fluids
- The solenoid valves satisfy all relevant EU Directives

GENERAL

Differential pressure See «SPECIFICATIONS» [1 bar = 100 kPa]
Response time 40 - 120 ms

fluids (*)	temperature range (TS)	seal materials (*)
hot water, steam	- 20°C to + 150°C	EPDM (ethylene-propylene)
steam	- 20°C to + 184°C	PTFE

MATERIALS IN CONTACT WITH FLUID

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

Body	Brass
Core tube	Stainless steel
Core and plugnut	Stainless steel
Springs	Stainless steel
Seat	Brass
Seals	EPDM
Discs	EPDM or PTFE
Shading coil	Copper

ELECTRICAL CHARACTERISTICS

Coil insulation class	F (EPDM disc) or H (PTFE disc)
Connector	Spade plug (cable Ø 6-10 mm)
Connector specification	ISO 4400 / EN 175301-803, form A
Electrical safety	IEC 335
Electrical enclosure protection	Moulded IP65 (EN 60529)
Standard voltages	DC (=) : 24V - 48V AC (~) : 24V - 48V - 115V - 230V / 50 Hz

(Other voltages and 60 Hz on request)

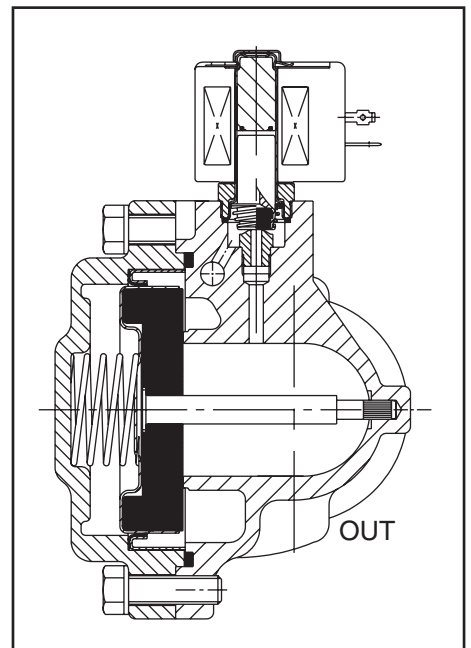
prefix option	power ratings				operator ambient temperature range (TS) (C°)	replacement coil		type ⁽¹⁾
	inrush ~	holding ~		hot/cold =		~	=	
	(VA)	(VA)	(W)	(W)		230 V/50 Hz	24 V DC	
SC	55	23	10,5	-	-20 to + 40	400425-117	-	01 (class F)
	44	20	10,5	-	-20 to + 40	400426-117	-	01 (class H)
	-	-	-	12/16,8	-20 to + 40	-	400625-142	02

⁽¹⁾ Refer to the dimensional drawings on the following page.

SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)				max. fluid temp. (°C)		power coil (W)		catalogue number	
				min.	max. (PS)								
					steam (*)	water (*) ⁽²⁾							
Rp	(mm)	(m³/h)	(l/min)		~	=	~	=	~	=			
NC - Normally closed, EPDM disc													
1 1/4	28	12,8	213	0,35	3,5	3,5	10	10	150	150	10,5	16,8	SCE220-009
1 1/2	32	19,5	325	0,35	3,5	3,5	10	10	150	150	10,5	16,8	SCE220-011
2	44	37	617	0,35	3,5	3,5	10	10	150	150	10,5	16,8	SCE220-013
NC - Normally closed, PTFE disc													
1 1/4	28	12,8	213	0,35	10	-	10	-	184	-	10,5	-	SCE220-027
1 1/2	32	19,5	325	0,35	10	-	10	-	184	-	10,5	-	SCE220-029
2	44	37	617	0,35	10	-	10	-	184	-	10,5	-	SCE220-031

⁽²⁾ Water temperature should not exceed 100°C.



OPTIONS

- Waterproof enclosure with embedded screw terminal coil according to protection class IP67, CEE-10
- Compliance with “UL”, “CSA” and other local approvals available on request
- Coils according to “CSA/SA” standards
- Other pipe connections are available on request
- Connector with visual indication and peak voltage suppression or with cable length of 2 m (www.asco.com)

INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation
- Pipe connection identifier is E = Rp (ISO 7/1)
- Installation/maintenance instructions are included with each valve

SPARE PARTS KIT & ACCESSORIES

catalogue number	spare parts kit no.	
	~	=
SCE220-009	C304394	C132651
SCE220-011	C304395	C132652
SCE220-013	C304943	C132653
SCE220-027	C304392	-
SCE220-029	C304393	-
SCE220-031	C306807	-

- Not available.

ORDERING EXAMPLES:

SC	E	220 - 011	230V / 50 Hz
SC	E	220 - 009	24V / DC
SC	E	220 - 027	115V / 50 Hz

prefix — pipe thread — basic number — voltage — suffix

ORDERING EXAMPLES KITS:

C304394	—	—	—
C304393	—	—	—

basic number — suffix

DIMENSIONS (mm), WEIGHT

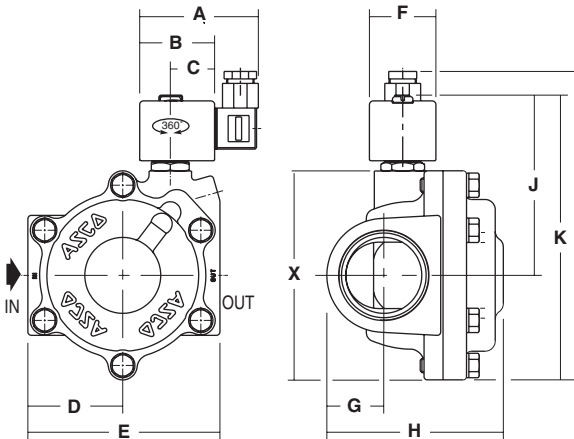


TYPE 01-02

Prefix “SC” Solenoid
Epoxy moulded
IEC 335 / ISO 4400
IP65

Type 01 (AC) : SCE220-009/011/013/027/029/031

Type 02 (DC) : SCE220-009/011/013



type	prefix option	catalogue number	A	B	C	D	E	F	G	H	J	K	L	X	weight ⁽¹⁾
01	SC	SCE220-009/027	80	50	30	46	93	45	29	89	106	147	162	98	2,1
		SCE220-011/029	80	50	30	55	111	45	33	104	110	160	175	111	2,8
		SCE220-013/031	80	50	30	64	129	45	38	119	120	190	205	141	4,6
02	SC	SCE220-009	86	56	33	46	93	50	29	89	96	137	152	80	2,2
		SCE220-011	86	56	33	55	111	50	33	104	100	150	165	93	2,9
		SCE220-013	86	56	33	64	129	50	38	119	110	180	195	123	4,7

⁽¹⁾ including coil and connector.



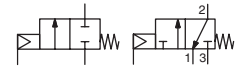
VALVES

pressure operated

for superheated water and steam applications

3/8 .. 2 1/2 / DN 10 .. DN 65

NC

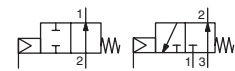


2/2-3/2

Series

290

NO



390

FEATURES

- Remote-controlled disc valve for superheated water and steam at temperatures up to 184°C
- High flow due to angled seat design
- Equipped with a piston-type operator
- Anti-waterhammer design (fluid entry under the disc)
- Wide range of operators (32, 50, 63, 90 and 125 mm) for maximum performance at different minimum pilot pressures
- Operator rotatable by 360°
- High performance, maintenance-free stuffing box
- Optical position indicator
- Proportional valves (see section: "Proportional Valves")
- The valves in conformity with IEC 61508 Standard (2010 route 2_H version) certified with integrity levels: SIL 2 for HFT = 0

GENERAL

Differential pressure:	[1 bar = 100 kPa]
Steam	0 to 10 bar
Superheated water	0 to 16 bar
Maximum allowable pressure	16 bar

fluids	max. temperature (TS)	disc seal
steam, superheated water	+ 184°C	PTFE

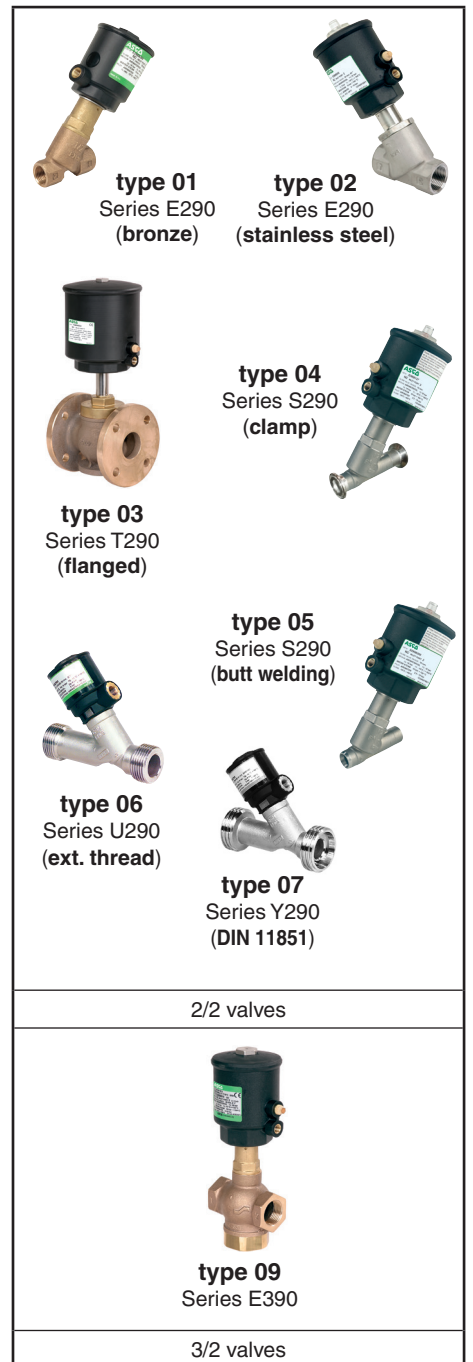
2/2 CONSTRUCTION

	Bronze body	Stainless steel body
Body	Bronze	Stainless steel ⁽¹⁾
Connection:		
Threaded	1/2 to 2 1/2 (type 01)	3/8 to 2 1/2 (type 02)
Clamp	-	DN 10 to 65 (type 04)
Butt welding	-	DN 10 to 65 (type 05)
External threads	-	1/2 to 1 (type 06)
External threads DIN 11851	-	DN 10 to 20 (type 07)
Flanges (PN16)	DN 25 to 50 (type 03)	(RD 28x1/8 .. RD 44x1/6)
See section: Pressure Operated Valves (2/2)		
Threaded	Page: 15 (www.asco.com)	Pages: 15 (www.asco.com) / 23 (www.asco.com) ⁽²⁾
Clamp	-	Pages: 27 (www.asco.com) / 31 (www.asco.com)
Butt welding	-	Pages: 27 (www.asco.com) / 31 (www.asco.com)
External threads	-	Page: 23 (www.asco.com)
External threads DIN 11851	-	Page: 25 (www.asco.com)
Flanges	Page: 35 (www.asco.com)	-

3/2 CONSTRUCTION

	Bronze body
Body	Bronze
Connection:	
Threaded	1/2 to 2 (type 09)
See section: Pressure Operated Valves (3/2)	
Threaded	Page: 1 (www.asco.com)

⁽¹⁾ All stainless steel AISI 316L, contact us.
⁽²⁾ All stainless steel AISI 316L included.



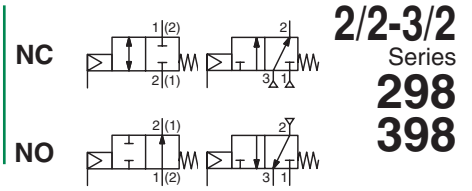


VALVES

pressure operated

for superheated water and steam applications

1/2 .. 2 / DN 15 .. DN 50, PN40



2/2-3/2
Series
298
398

FEATURES

- Ruggedly built valve, particularly recommended for use with steam, superheated water, corrosive fluids
- High-performance, thermal shock-resistant, maintenance-free stuffing box
- Pressure can be applied to any port as needed by the process
- 2/2: Anti-waterhammer design (fluid entry at orifice 1), recommended for use with liquids
- 3/2 U: 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)
- Allowable backpressure: up to 40 bar
- Optical position indicator as standard
- Autoclavable valve for use at high ambient temperatures up to 180°C
- The valves in conformity with IEC 61508 Standard (2010 route 2_H version) certified with integrity levels: SIL 2 for HFT = 0

GENERAL

Differential pressure:	[1 bar = 100 kPa]
Steam	0 to 24 bar 0 to 32 bar
Superheated water	0 to 21 bar 0 to 40 bar
Maximum allowable pressure	40 bar

fluids (*)	temperature range	disc seal (*)
DN 15-20-25: air and gas groups 1 & 2	-10°C to +233°C	PEEK
DN 32-40-50: air and gas group 2	-10°C to +250°C	metal-to-metal
all DN: water, oil, liquids groups 1 & 2 and steam	-10°C to +180°C	PTFE

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

2/2 CONSTRUCTION

Body	Stainless steel
Connection:	
Threaded	1/2 to 2 (type 01)
Flanges	DN 15 to 50 (type 02)
(DIN and ANSI Class 300)	
Socket welding	DN 15 to 50 (type 03)

See section: Pressure Operated Valves (2/2)

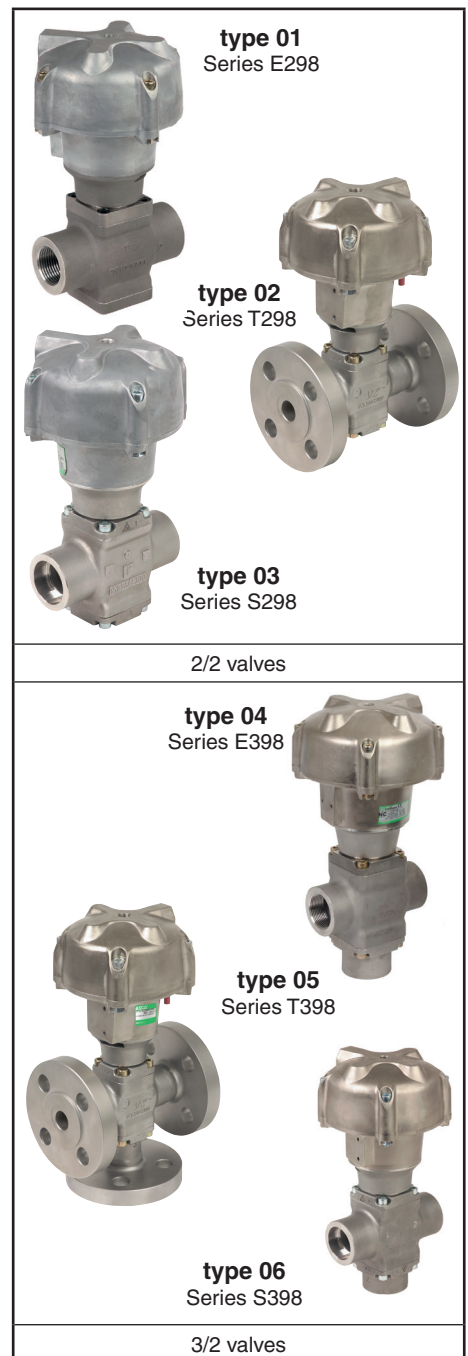
Threaded	Page: 53 (www.asco.com)
Flanges	Page: 57 (www.asco.com)
Socket welding	Page: 61 (www.asco.com)

3/2 CONSTRUCTION

Body	Stainless steel
Connection:	
Threaded	1/2 to 2 (type 04)
Flanges	DN 15 to 50 (type 05)
(DIN and ANSI Class 300)	
Socket welding	DN 15 to 50 (type 06)

See section: Pressure Operated Valves (3/2)

Threaded	Page: 3 (www.asco.com)
Flanges	Page: 7 (www.asco.com)
Socket welding	Page: 11 (www.asco.com)



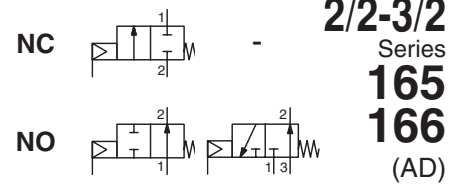
00104GB-2017/R01
Availability, design and specifications are subject to change without notice. All rights reserved.

All leaflets are available on: www.asco.com



VALVES

pressure operated
for steam applications
1/2 .. 2 / DN 15 .. DN 80



FEATURES

- Differential-action valve for high-pressure control at reduced pilot pressure
- Powerful spring and large diaphragm ensuring reliable operation
- Heavy-duty valve recommended for steam applications

GENERAL

Differential pressure: [1 bar = 100 kPa]
Steam 0 to 10 bar
Maximum allowable pressure: 16 bar

fluids	max. temperature (TS)	types
steam	+ 184°C	01-02-04

2/2 CONSTRUCTION

Body Bronze
Connection:
Threaded 1/2 to 2 (type 01)
Flanges (PN16) DN 15 to 80 (type 02)

See section: Pressure Operated Valves (2/2)

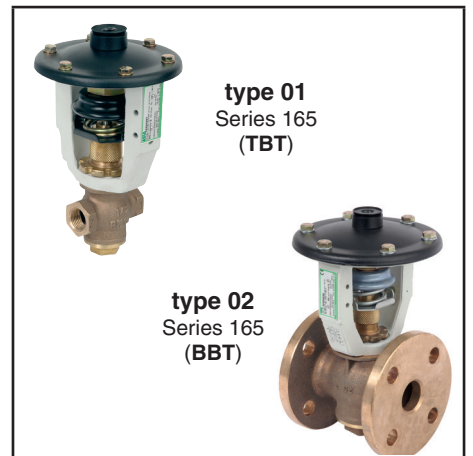
Threaded [Page: 77 \(www.asco.com\)](http://www.asco.com)
Flanges (PN16) [Page: 79 \(www.asco.com\)](http://www.asco.com)

3/2 CONSTRUCTION

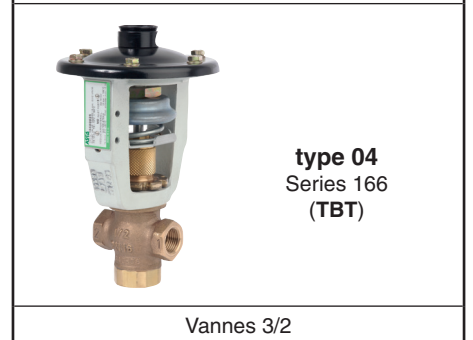
Body Bronze
Connection:
Threaded 1/2 to 2 (type 04)

See section: Pressure Operated Valves (3/2)

Threaded [Page: 17 \(www.asco.com\)](http://www.asco.com)



Vannes 2/2



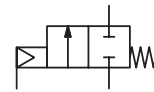
Vannes 3/2



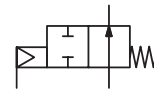
VALVES

pressure operated
for steam applications
external threaded ports, PN40, M25x1,5 and M36x2

NC



NO



2/2
Series
R298

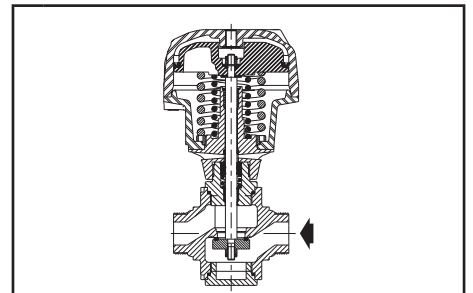
FEATURES

- Compact 2/2 NC-NO disc valve, stainless steel body, threaded ports
- Ruggedly built, particularly recommended for:
 - use with superheated water and steam, up to max. 240°C
 - high ambient temperatures, up to 180°C
 - use in corrosive environments
- Valve equipped with a piston operator
- Allowable backpressure 20 bar⁽¹⁾
- Optical position indicator as standard
- Reliable operation at low pilot pressures
- High-performance, maintenance-free stuffing box
- The valves satisfy Pressure Equipment Directive 2014/68/EU, article 4.3

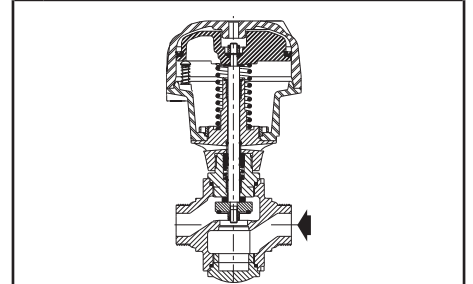
GENERAL

fluids (*)	temperature range	disc seal (*)
air and gas groups 1 & 2 superheated water, liquids groups 1 & 2 and steam	-10°C to +240°C	PEEK

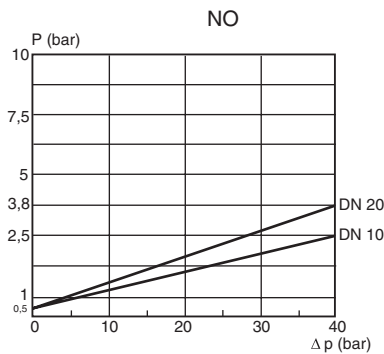
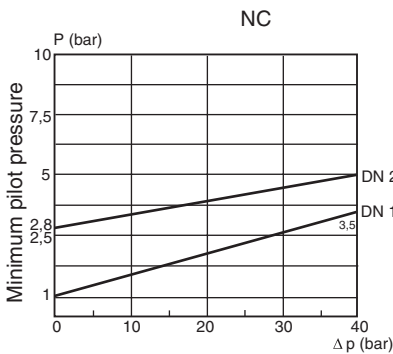
Differential pressure	0 to 40 bar [1 bar = 100 kPa]
Maximum allowable pressure	40 bar (within the specified limits, see diagram I)
Ambient temperature range	-10°C to +180°C
Maximum viscosity	600 cSt (mm ² /s)
Pilot fluid	Air
Max. pilot pressure	10 bar
Min. pilot pressure	See below



NC function



NO 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	PEEK
Valve body seal	PTFE

OTHER MATERIALS

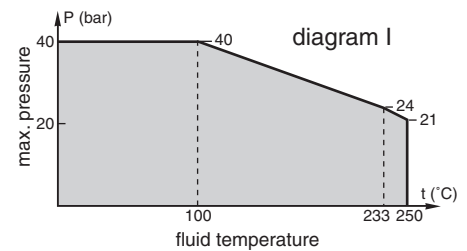
Operator	Aluminium
Optical position indicator	Aluminium

SPECIFICATIONS

pipe size	DN	flow coefficient Kv		maximum allowable pressure (bar)	pilot pressure (bar)		operator diameter (mm)	catalogue number	
		(m ³ /h)	(l/min)		min.	max.		pilot connection	
								G 1/8	1/8 NPT
NC - Normally closed									
M25x1,5	10	2,64	47	40	*	10	80	R298B615	R298B635
M36x2	20	7,56	126	40	*	10	100	R298B616	R298B636
NO - Normally open									
M25x1,5	10	2,26	38	40	*	10	80	R298B613	R298B633
M36x2	20	6,12	102	40	*	10	100	R298B642	R298B662

* Minimum pilot pressure varies with differential pressure. See piloting chart above.

⁽¹⁾ Allowable max. back pressure 20 bar, see page: 18 ("INSTALLATION").



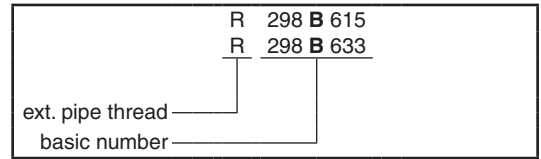
INSTALLATION

- The valves can be mounted in any position without affecting operation
- In normal use: fluid entry under the disc (for fluid entry above the disc, contact us)

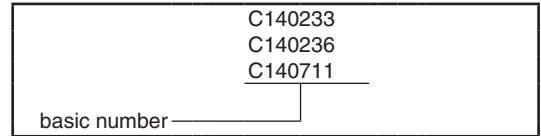
SPARE PARTS KITS

catalogue number	spare parts kit no.		
	piston seal	actuator spring	stem, disc, seals
R298B615/B635	C140233	C140236	C140711
R298B616/B636	C140234	C140238	C140712
R298B613/B633	C140233	C140237	C140714
R298B642/B662	C140234	C140239	C140715

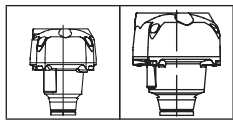
ORDERING EXAMPLES:



ORDERING EXAMPLES KITS:



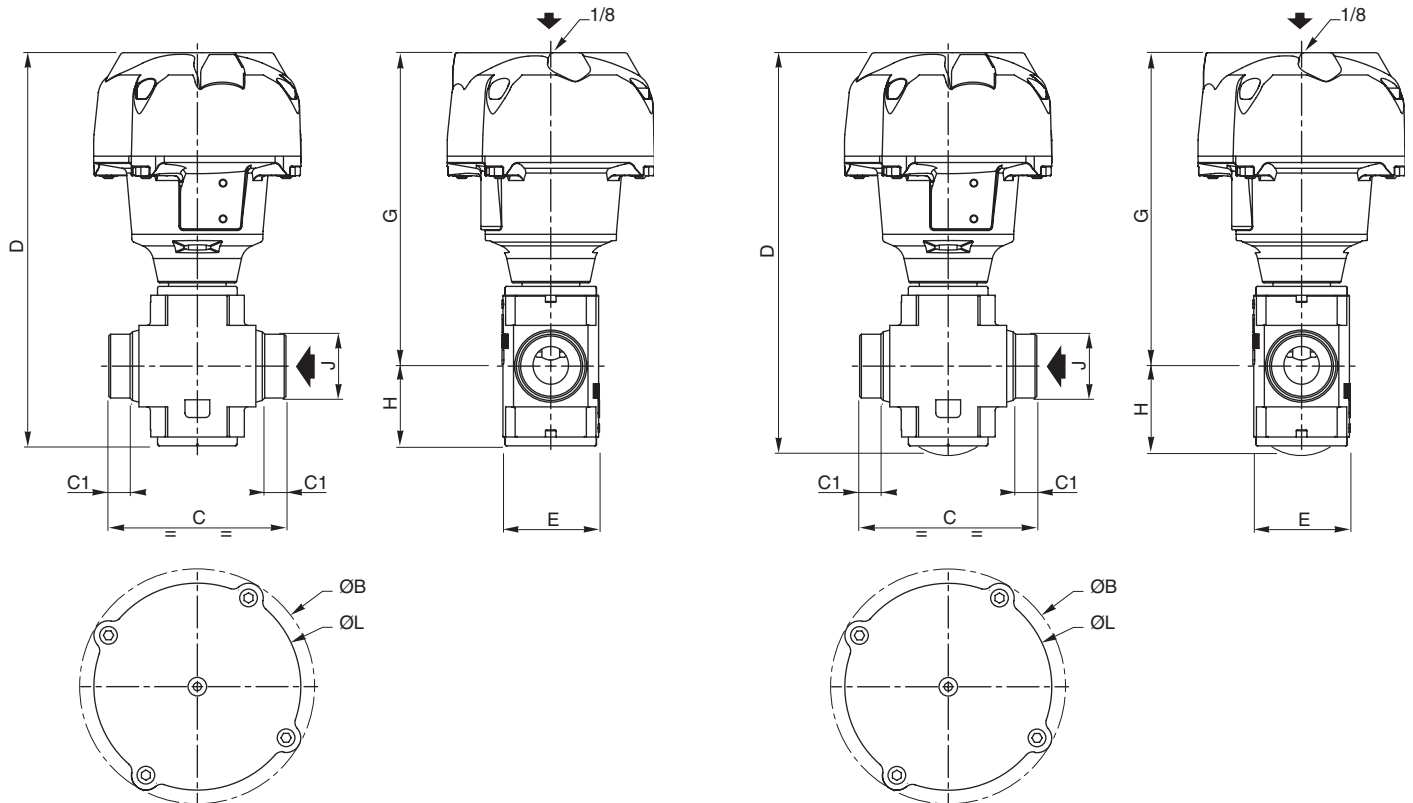
DIMENSIONS (mm), WEIGHT (kg)



TYPE 01-02
Prefix "R"

NC, normally closed

NO, normally open

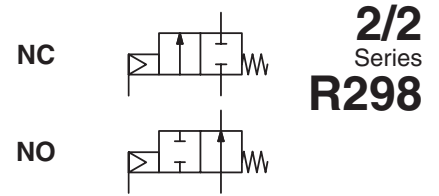


	type	DN	operator diameter	catalogue number	ØB	C	C1	D	E	G	H	J	ØL	weight
NC	01	10	80	R298B615/B635	110	76	11,5	192,6	44	155,6	37	M25 x 1,5	95	2
	02	20	100	R298B616/B636	132	100	12	221,9	54	176,9	45	M36 x 2	117	3,5
NO	01	10	80	R298B613/B633	110	76	11,5	197,6	44	155,6	42	M25 x 1,5	95	2
	02	20	100	R298B642/B662	132	100	12	226,9	54	176,9	50	M36 x 2	117	3,5



VALVES

pressure operated
for steam applications
pad-mounting, PN40, DN 10, 20 and 32



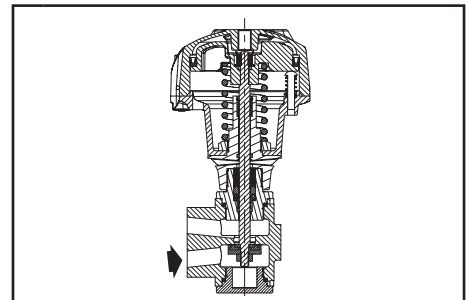
FEATURES

- Compact 2/2 NC-NO disc valve, stainless steel body, pad-mounting body
- Ruggedly built, particularly recommended for:
 - use with superheated water and steam, up to max. 240°C
 - high ambient temperatures, up to 180°C
 - use in corrosive environments
- Valve equipped with a piston operator
- Allowable backpressure 20 bar⁽¹⁾
- Optical position indicator as standard
- Reliable operation at low pilot pressures
- High-performance, maintenance-free stuffing box
- The valves satisfy Pressure Equipment Directive 2014/68/EU, article 4.3

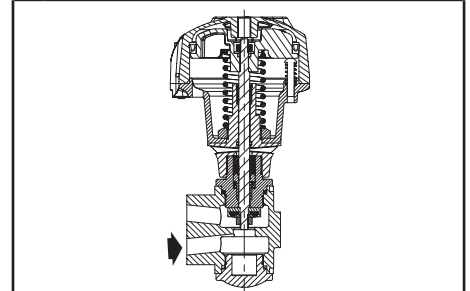
GENERAL

fluids (*)	temperature range	disc seal (*)
DN ≤ 20: air and gas groups 1 & 2 DN = 32: air and gas group 2 all DN: superheated water, liquids groups 1 & 2 and steam	-10°C to +240°C	PEEK

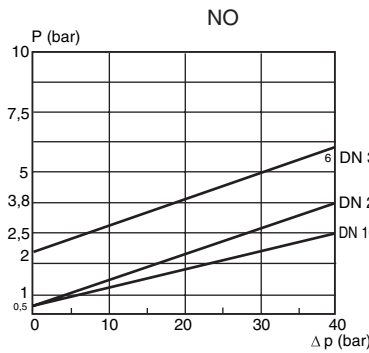
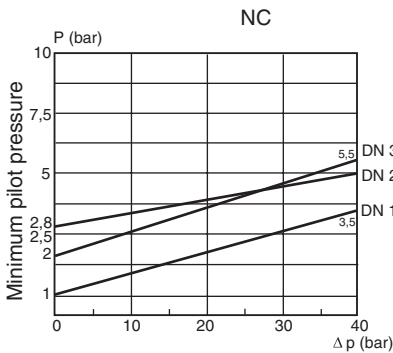
Differential pressure 0 to 40 bar [1 bar = 100 kPa]
Maximum allowable pressure 40 bar (within the specified limits, see diagram I)
Ambient temperature range -10°C to +180°C
Maximum viscosity 600 cSt (mm²/s)
Pilot fluid Air
Max. pilot pressure 10 bar
Min. pilot pressure See below



NC function



NO 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 PEEK
Valve body seal PTFE

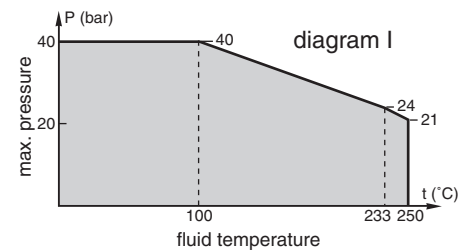
OTHER MATERIALS

Operator Aluminium
Optical position indicator Aluminium

SPECIFICATIONS

pipe size	DN	flow coefficient Kv		maximum allowable pressure (bar)	pilot pressure (bar)		operator diameter (mm)	catalogue number	
		(m ³ /h)	(l/min)		min.	max.		pilot connection 1/8	
								G	NPT
NC - Normally closed									
pad mounting	10	2,4	40	40	*	10	80	R298B608	R298B628
	20	7,44	124	40	*	10	100	R298B609	R298B629
	32	16,08	268	40	*	10	100	R298B644	R298B664
NO - Normally open									
pad mounting	10	1,98	33	40	*	10	80	R298B604	R298B624
	20	6,72	112	40	*	10	100	R298B643	R298B663
	32	16,08	268	40	*	10	100	R298B645	R298B665

* Minimum pilot pressure varies with differential pressure. See piloting chart above.
⁽¹⁾ Allowable max. back pressure 20 bar, see page: 20 ("INSTALLATION").



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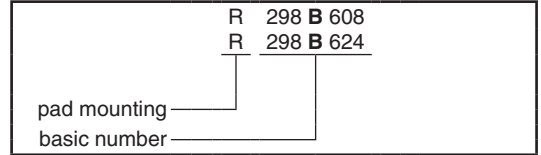
INSTALLATION

- The valves can be mounted in any position without affecting operation
- In normal use: fluid entry under the disc (for fluid entry above the disc, contact us)
- Mounting on single stainless steel subbase, max. temperature 215°C, (with PTFE seals and 2 mounting screws):
G 1/2 (for DN 10), catalogue number **35300192**; G 1 (for DN 20), catalogue number **35300193**;
G 1 1/4 (for DN 32), catalogue number **35300194**; G 1 1/2 (for DN 32), catalogue number **35300196**
- Pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1
- Valves have 2 mounting holes in the body

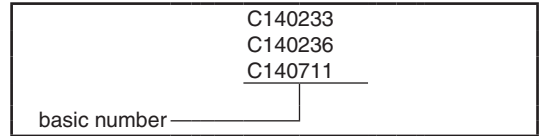
SPARE PARTS KITS

catalogue number	spare parts kit no.		
	piston seal	actuator spring	stem, disc, seals
R298B608/B628	C140233	C140236	C140711
R298B609/B629	C140234	C140238	C140712
R298B644/B664	C140234	C140240	C140713
R298B604/B624	C140233	C140237	C140714
R298B643/B663	C140234	C140239	C140715
R298B645/B665	C140234	C140241	C140716

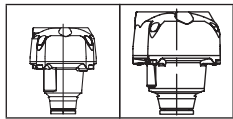
ORDERING EXAMPLES:



ORDERING EXAMPLES KITS:



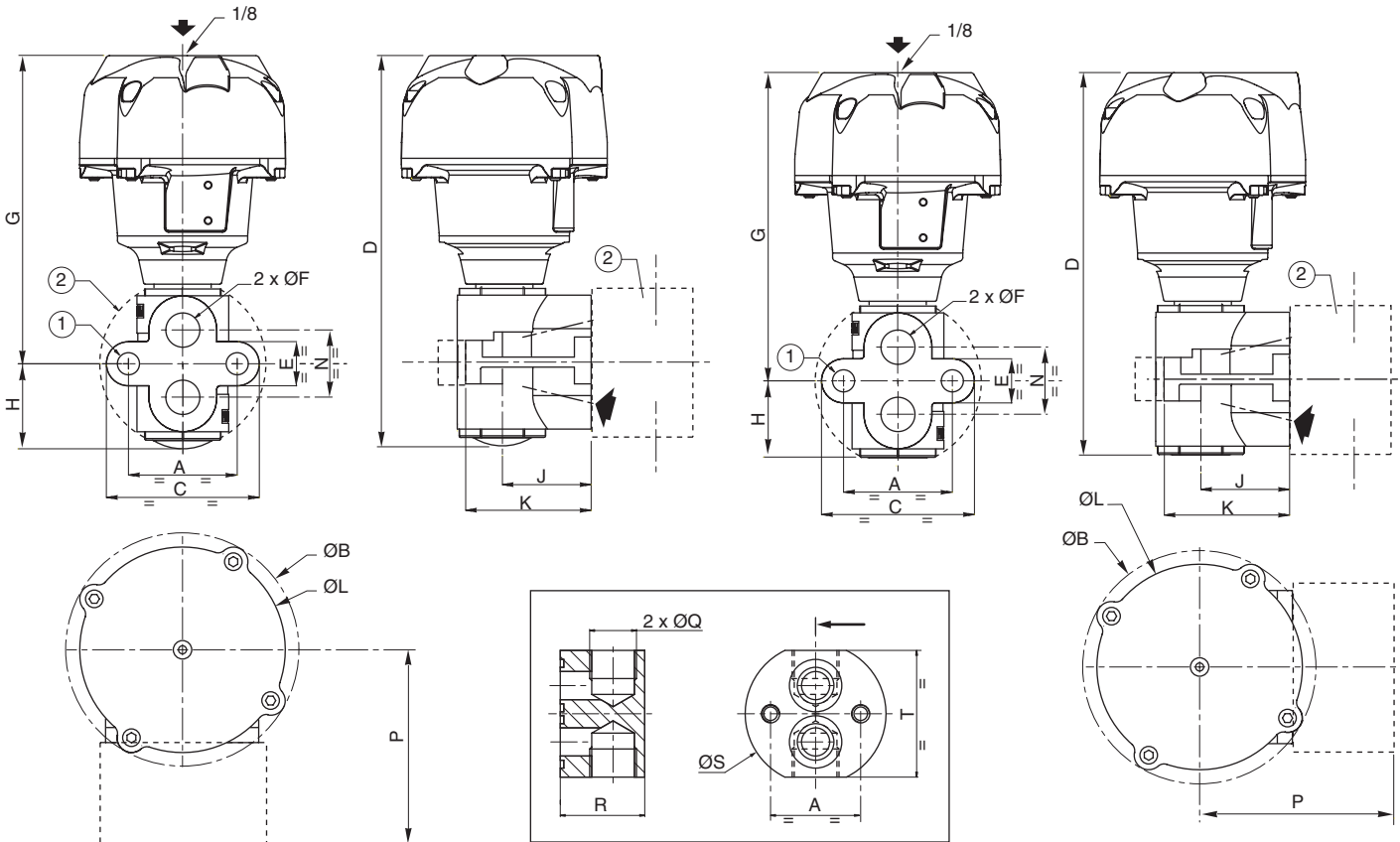
DIMENSIONS (mm), WEIGHT (kg)



TYPE 01-02
Prefix "R"

NO, normally open

NC, normally closed



① 2 mounting holes ØM

② Threaded subbases (2 screws and seals supplied)

	type	DN	operator diameter	catalogue number	A	ØB	C	D	E	ØF	G	H	J	K	ØL	ØM	N	P	ØQ (G*)	R	ØS	T	weight
NC	01	10	80	R298B608/B628	58	110	84	192,6	26	12	155,6	37	42	68,5	95	13	25	87	1/2	45	80	70	2
	02	20	100	R298B609/B629	64	132	90	221,9	26	20	176,9	45	53	80	117	13	40	113	1	60	100	90	3,5
	02	32	100	R298B644/B664	90	132	122	273	32	32	207	66	69	102,5	117	17	50		1 1/4-1 1/2	60	150	130	7,5
NO	01	10	80	R298B604/B624	58	110	84	197,6	26	12	155,6	42	42	68,5	95	13	25	87	1/2	45	80	70	2
	02	20	100	R298B643/B663	64	132	90	226,9	26	20	176,9	50	53	80	117	13	40	113	1	60	100	90	3,5
	02	32	100	R298B645/B665	90	132	122	278	32	32	207	71	69	102,5	117	17	50		1 1/4-1 1/2	60	150	130	7,5