

ASCO™ Pneumatic Straight Seat Valves

3-way, Pressure Operated, Stainless Steel Body
Aluminium Actuator, with Threaded Port PN40, 1/2" to 2"

3/2
Series
E398

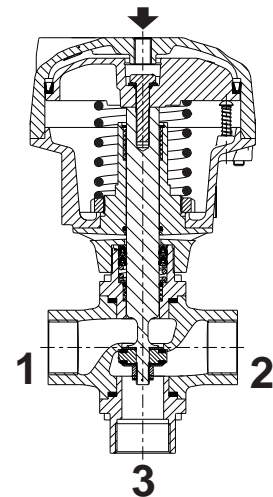
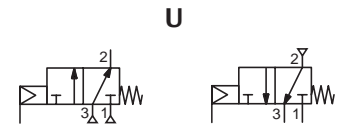
Features and Benefits

- Ruggedly built valve, particularly recommended for use with steam, superheated water, corrosive fluids
- High-performance, maintenance-free 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 (PTFE and PEEK discs)
- Optical position indicator as standard
- Autoclavable valve for use at high ambient temperatures (up to 180°C)
- The valves satisfy Pressure Equipment Directive 2014/64/EU
- The valves in conformity with IEC 61508 Standard (2010 route 2_H version) certified with integrity levels: SIL 2 for HFT = 0

General

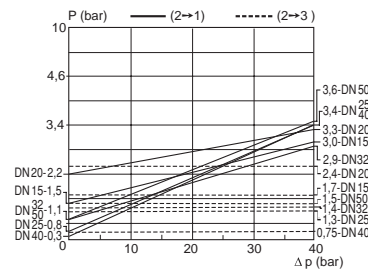
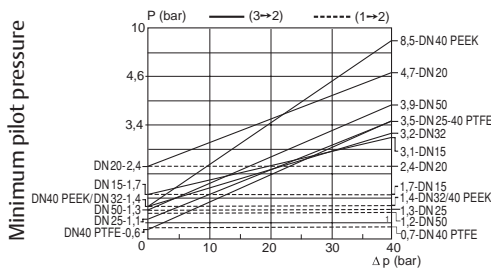
Differential pressure	0 to 40 bar [1 bar = 100 kPa]
Maximum allowable pressure	40 bar (within the specified limits, see diagram I)
Maximum back pressure	40 bar / 20 bar for PEEK sealing
Ambient temperature range	-20°C to +180°C [Option: -55°C to +70°C]
Maximum viscosity	5000 cSt (mm ² /s)
Pilot fluid	Air
Max. pilot pressure	10 bar
Min. pilot pressure	See graphs below

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



mixer function

distributor function



Specifications

Body connection Threaded port, BSP DIN ISO 228/1 and ISO 7/1
NPTF ANSI B1.20.3

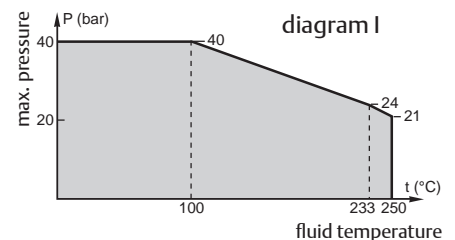
Materials of components in contact with fluid

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

Body and plug	304 stainless steel
Stuffing box housing	304 stainless steel
Stem, disc	431 stainless steel, 304 stainless steel
Stuffing box packing	PTFE chevrons
Disc seals	PEEK or PTFE or Stainless steel
Valve body seal	PTFE

Other components

Actuator	Aluminium, nickel plated
Screws	Galvanized steel



Options

- Low temperature (media and ambient temperature), PTFE disc seal (-55°C to +70°C), see “PRODUCT CODE” (*) ⁽¹⁾
- Oxygen service, max. fluid pressure 15 bar, max. fluid temperature 150°C, PTFE disc, see “PRODUCT CODE”
- Signaling box, see “PRODUCT CODE”:
 - Dual mechanical contacts or dual inductive contacts (PNP 3 wires)
 - Dual inductive contacts ATEX Ex ia (NAMUR 2 wires)
 - Dual mechanical contact ATEX Ex d IIC T6 (Crouzet contacts type 83101-I-W1, ambient temperature -20°C to +80°C)
 - Dual mechanical contact ATEX Ex d IIC T6 (Honeywell contact type 1HS1, ambient temperature -55°C to +70°C). Use for low temperature option
- For use in explosive atmospheres, zones 1/21-2/22, categories 2-3 to ATEX Directive 2014/34/EU: Ex IIC 2GD c x°C (Tx)
- CUTR Certification for ATEX 1/21, see “PRODUCT CODE”
- Valve seat leakage class VI as defined by FCI-2 ANSI B16.104 or Class A or B following EN 12266-1, contact us
- Manual override on the top of the actuator (Manual safety device), contact us
- Other flange types are available on request
- Re-buildable valve program; rebuild services, contact us

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

⁽¹⁾ The minimum ambient temperature of the valve is determined by the limitations of minimum temperature indicated.

Specifications

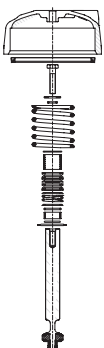
Piping (ISO 6708)		Orifice size	Flow coefficient Kv								Pilot pressure (bar)		Operating pressure differential (bar)	Actuator diameter (mm)	Catalog number				
Pipe size	DN		Mixer				Distributor				Min.	Max.			Disc sealing				
			3 → 2	1 → 2	2 → 3	2 → 1	(m³/h)	(l/min)	(m³/h)	(l/min)					(m³/h)	(l/min)	PTFE	PEEK	Metal-to-Metal
(G*)	(mm)	(mm)	(m³/h)	(l/min)	(m³/h)	(l/min)	(m³/h)	(l/min)	(m³/h)	(l/min)	(m³/h)	(l/min)	Min.	Max.	(bar)	(mm)	PTFE	PEEK	Metal-to-Metal
U - Universal																			
1/2"	15	15	3.3	54	4.4	73	3.5	59	4.6	78	*	10	40	80			E398B237UTA0000	E398B237UVA0000	E398B237UEA0000
3/4"	20	20	8.0	133	7.4	123	8.1	136	7.7	129	*	10	40	100			E398B24DUTA0000	E398B24DUVA0000	E398B24DUEA0000
1"	25	25	11.4	190	11.6	194	12.1	203	11.9	199	*	10	40	100			E398B25DUTA0000	E398B25DUVA0000	E398B25DUEA0000
1 1/4"	32	32	18.9	316	16.6	278	17.9	299	16.6	278	*	10	40	150			E398B26KUTA0000	E398B26KUVA0000	E398B26KUEA0000
1 1/2"	40	40	27	450	27	450	27	450	27	450	*	10	40	150			E398B27KUTA0000	E398B27KUVA0000	E398B27KUEA0000
2"	50	50	51	850	51	850	51	850	51	850	*	10	40	200			E398B28MUTA0000	E398B28MUVA0000	E398B28MUEA0000

* Minimum pilot pressure varies with differential pressure. See piloting chart preceding page.

ASCO™ Pneumatic Straight Seat Valves

Product selection guide

		PRODUCT CODE									
		E	398	B	2	3	7	U	V	A00	00
Connection	E = ISO 228/1 & ISO 7/1 (combination thread, G*) 8 = NPTF (ANSI B1.20.3)										
Product series	398										
Revision letter	B = New Stuffing Box and Disc Materials										
Function	2 = Universal										
Diameter (mm)	3 = 15 mm 4 = 20 mm 5 = 25 mm 6 = 32 mm 7 = 40 mm 8 = 50 mm										
Operator Dia. - Piloting Connection Dia.	7 = Ø80 mm - G 1/8" 8 = Ø80 mm - NPT 1/8" ⁽¹⁾ D = Ø100 mm - G 1/8" E = Ø100 mm - NPT 1/8" ⁽¹⁾ K = Ø150 mm - G 1/4" L = Ø150 mm - NPT 1/4" ⁽¹⁾ M = Ø200 mm - G 1/4" N = Ø200 mm - NPT 1/4" ⁽¹⁾ ⁽¹⁾ Connection = 8 [NPTF (ANSI B1.20.3)]										
		Options A00 = Without AT1 = ATEX zones 1/21 AT2 = ATEX zones 2/22 LTP = PTFE disc for low temperature (-55°C to +70°C) MC2 = Dual mechanical Contacts AD2 = Dual position Contact ATEX Ex d 1S2 = Dual position Contact NAMUR ATEX Ex i 1C2 = Dual inductive contacts PNP 3 wires O2S = PTFE disc for Oxygen service 125 = CUTR Certification for ATEX 1/21 LT1 = AT1 + LTP LT2 = AT2 + LTP									
		Disc Seal Material T = PTFE E = Metal-to-metal (stainless steel) V = PEEK									
		Port Type U = ISO 228/1 and ISO 7/1 8 = NPT ⁽¹⁾									

		Spare parts kits no. (*)	
		PTFE disc seal	PEEK disc version
	DN 15	M39852671700300	M39852671400300
	DN 20	M39852671700600	M39852671400600
	DN 25	M39852671700900	M39852671400900
	DN 32	M39852671701200	M39852671401200
	DN 40	M39852671701500	M39852671401500
	DN 50	M39852671701800	M39852671401800

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

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Installation

- The valves can be mounted in any position without affecting operation
- Compatible with ASTM 1, 2 and 3 oils
- Check temperature range of valve body and solenoid pilot valves for suitability. For probability of failure, contact us
- Piloting thread connection: Pipe connections (G*) have standard thread according to ISO 228/1 and ISO 7/1.
Pipe connections (G) have standard thread according to ISO 228/1
- Piloting thread connections have standard thread = NPTF (ANSI B1.20.3)
- Declarations of conformity are available on request
- Installation/maintenance instructions are included with each valve

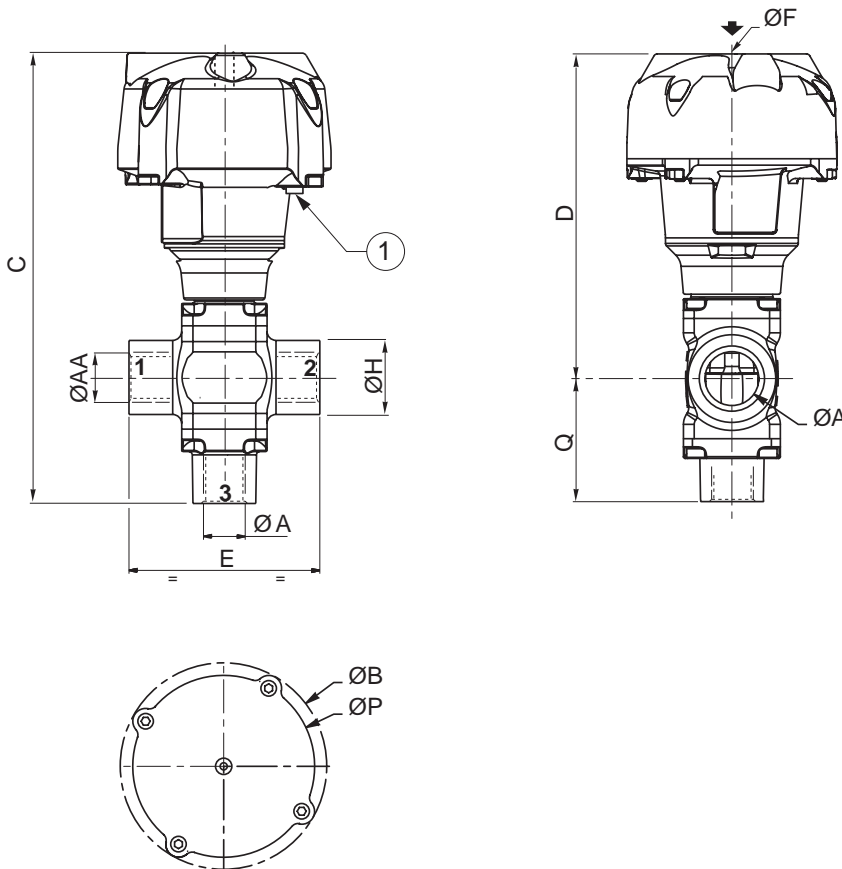
Dimensions (mm), Weight (kg)



Configurator - CAD Files



TYPE 01-02-03-04
"E" threaded connection



① Optical position indicator

Type	DN	Actuator diameter	ØA	ØAA	ØB	C	D	E	ØF	ØH	ØP	Q	Weight
01	15	80	15	1/2"	110	203.1	151.6	85	G 1/8"	33	95	51.5	1.88
	20	100	20	3/4"	132.5	229.2	170.9	110	G 1/8"	40	117	58.3	3.52
02	25	100	25	1"	132.5	244.9	180.9	120	G 1/8"	46	117	64	4.24
	32	150	32	1 1/4"	191	318.2	237.2	145	G* 1/4"	57	172.5	81	9.38
03	40	150	40	1 1/2"	191	361.7	259.2	150	G* 1/4"	65	172.5	102.5	11.9
	50	200	50	2"	247	436	328.5	190	G* 1/4"	75	230	107.5	23.66

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