

Products in this catalogue are identified by a 15-digit, numerical or alphanumerical identification system.

15-DIGIT PRODUCT CODE

E262K232S1N00F8

8-DIGIT PRODUCT CODE

(NUMERICAL CATALOGUE NUMBERS)

	165	0	0088	210555
	109	0	0040	970517
series no.				
type of material:				
0: standard				
serial number				option code

CODES (under "options" in the catalogue)

option	description
210555	Protective cover mounted on valves, 1/2-3/4-DN15-20 (Series: 165-166)
210556	Protective cover mounted on valves, 1-1 1/4-DN25-32 (Series: 165-166)
210557	Protective cover mounted on valves, 1 1/2-2-DN40-50 (Series: 165-166)
210558	Protective cover mounted on valves, DN65-80 (Series: 165)
260657	2 explosionproof switches, 1 contact, -20°..+80°C, DN15..32 (Series: 165-166)
260658	2 explosionproof switches, 1 contact, -20°..+80°C, DN40..80 (Series: 165-166)
260660	2 explosionproof switches, 2 contacts, -20°..+80°C, DN15..32 (Series: 165-166)
260661	2 explosionproof switches, 2 contacts, -20°..+80°C, DN40..80 (Series: 165-166)
260663	2 explosionproof switches, 1 contact, -55°..+82°C, DN15..32 (Series: 165-166)
260664	2 explosionproof switches, 1 contact, -55°..+82°C, DN40..80 (Series: 165-166)
970509	Oxygen service (Series: 165, except for DN65 to 80, Series: 166)
970517	Oxygen service (Series: 108-109)
970523	Valve body degreased during assembly (Series: 165-166)

ALPHANUMERICAL CATALOGUE NUMBERS

	E	290A385					
	SC	B	262C220				
	SC	X*	S	272A017		TPL	20655
	WP	E	030B013	E	MBMO		
prefix							
pipe thread							
series no.							
basic number							
suffix							
TPL no.							

PREFIX - Electrical characteristics, connectors, etc.

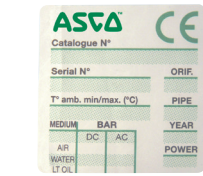
prefix							description
1	2	3	4	5	6	7	
C	F	S	C				Solenoid with connector DIN 43650, 9,4 mm, pilot 302
C	F	V	T				Solenoid with connector M12, LED and protection, pilot 302
E	F						Explosionproof - NEMA 7, 9 - Zinc plated steel conduit
E	V						Explosionproof - NEMA 7, 9 - 316 SS conduit
W	B	L	P				.S./encapsulation with PBT IP67 enclosure (EN/IEC 60079-7, -18, -31)
E	M						Waterproof IP66/67 - Metal enclosure (EN/IEC 60079-7, -18 and -31)
		E	T				Threaded conduit/hole (M20 x 1,5)
				H	T		Class H - High temperature, +80°C ambient temp.
L	P	K	F				Flameproof - Aluminium (EN/IEC 60079-1, 60079-31)
N	F						Flameproof - Aluminium (EN/IEC 60079-1, 60079-31)
P	V						Encapsulated epoxy moulded (EN/IEC 60079-18)
S	C						Solenoid with spade plug connector
		T					Threaded conduit (1/2" NPT)
W	P						Waterproof IP67 - Metal enclosure
L	I						I.S. with Aluminium IP66/IP67 enclosure (EN/IEC 60079-11+31)
N	F			I	S		I.S. with Aluminium IP67 enclosure ATEX-IECEx
W	S						Waterproof IP67 - 316 SS enclosure
W	S	E	M				Waterproof IP66/67 - 316 SS enclosure (EN/IEC 60079-7, -18 and -31)
W	S	L	I				I.S. with 316L SS IP66/IP67 enclosure (EN/IEC 60079-11+31)
W	S	L	P	K	F		Flameproof 316L SS (EN/IEC 60079-1, 60079-31)
W	S	N	F				Flameproof 316L SS (EN/IEC 60079-1, 60079-31)
W	S	N	F	I	S		I.S. with 316 SS IP67 enclosure ATEX-IECEx
S	G						Dust applications - coils and connectors - II 3 D, Ex tc IIIC
						X	Other special constructions *

* If prefix X is used, always specify Temporary Parts List (TPL) number.

The catalogue number appears on the product label:



E262K232S1N00F8



10900040

The catalogue number appears on the product label:



SUFFIX - Seal materials, manual operator etc. (under the "options" column in the SPECIFICATIONS table)

suffix							description
1	2	3	4	5	6	7	
	G	D					Non-electrical, 2 GD c, construction safety, gas/dust (EN 13463-5)
E							EPDM (ethylene-propylene)
N							Oxygen service
N	V						FPM (fluoroelastomer) parts cleaned for oxygen service
H	W						Diaphragm for hot water service
J							CR (chloroprene)
	M	B					Mounting bracket
			M	O			Impulse or maintained manual operator
			M	S			Maintained manual operator
	S	L					Certified IEC 61508 Functional Safety data
	M	F					Low temperature -40°C
T							PTFE
L							Metal-to-metal
L	T						Cryogenic
V							FPM (fluoroelastomer)
			V	M			Primary vacuum
			V	H			Secondary vacuum

TPL (temporary parts list) number - always associated with the prefix X (under "options" in the catalogue)

TPL	description
20547	Version for external pilot air supply (series 551-553)
20674	LED and protection (prefix CFSC)
23012	2 Mounting holes øM4, 7 mm depth (stainless steel body, series 370)

If you know the product's function:

solenoid valve 2/2 NC

→ Consult:

section: «Solenoid valves (2/2)»

pressure-operated valve 2/2 NC

→ Consult:

section: «Pressure Operated Valves (2/2)»

→ Consult the Quick Selection Chart, page: II

«Solenoid valves (2/2)»

→ Consult the Product Index, page: II

«Pressure Operated Valves (2/2)»

Simple selection according to:
material, series no. &
operating characteristics
(range of values)

Detailed selection according to:
operating characteristics
(values)

Simple selection according to:
material, series no. &
operating characteristics
(range of values)

Detailed selection according to:
operating characteristics
(values)

→ Consult pages: 5


«Solenoid valves (2/2)»

→ Consult page: 15

«Pressure Operated Valves (2/2)»

SOLENOID VALVES WITH CONNECTOR

Ordering example (262 Series - 15-DIGIT PRODUCT CODE)



= Brass body
With spade plug connector
Without manual operator
NBR disc and seals

+ Voltage - class
(AC)

full catalogue number: **E262K232S1N00F8**

E262K232S1N00

230 V / 50 Hz - class F
F8

Ordering example (alphanumerical catalogue number)



+ 2 mounting holes øM4,
depth 7 mm


+ voltage/frequency (AC)
or voltage (DC)

full catalogue number: **SCXE370A031**

TPL:
23012

230V/AC 50 Hz

Ordering example (numerical catalogue number)



+ oxygen service

+ voltage/frequency (AC)
or voltage (DC)


full catalogue number: **10900040**

option code:
970517

24V/DC

PRESSURE-OPERATED VALVES

Ordering example (398 Series - 15-DIGIT PRODUCT CODE)



= 304 stainless steel
Disc Seal Material
PEEK
Flanges DIN EN 1092-1
(ISO 7005) Standard

full catalogue number: **T398B26KDVA0000**

T398B26KDVA0000

Ordering example (piston-type valve)







=  + 

full catalogue number: **E290A384**

solenoid pilot valve:
1890UJ3z

Ordering example (diaphragm-type valve)



=  +  + 

full catalogue number: **16500088**

solenoid pilot valve:
E314K151S1N01F8

guard mounted on valve
option code:
210555

Ordering example (398 Series - 15-DIGIT PRODUCT CODE)

Example: You have selected a 3/2 series 398 pressure-operated valve. (section: «Pressure Operated Valves (3/2)») You would like to know which products are suitable for use in explosive atmosphere zones 1/21.



Example: **T398B26KDVA0000** (page: **8**)

ASCO VALVES SERIES T398

CONDITIONS

- Temperature (media and ambient temperature), PTFE disc seal (-55°C to +70°C), see "15-DIGIT PRODUCT CODE" (+)
- Oxygen service, max. fluid pressure 15 bar, max. fluid temperature 150°C, PTFE disc, see "15-DIGIT PRODUCT CODE"
- Sealing box, see "15-DIGIT PRODUCT CODE"
- Qual mechanical contacts or dual inductive contacts (PNP 3 wires)
- Qual inductive contacts ATEX Ex ia (NAMUR 2 wires)
- Qual mechanical contacts ATEX Ex ic IIC T6 (Crouzet contacts type S31014-W1, ambient temperature -20°C to +80°C)
- Qual mechanical contact ATEX Ex ic IIC T6 (Honeywell contact type 1HS1, ambient temperature -55°C to +70°C). Use for low temperature option
- 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)
- ULTR Certification (EAC), see "15-DIGIT PRODUCT CODE"
- Live seat leakage class VI as defined by FC1-2 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
- Rebuildable valve program; rebuild services, contact us

NOTES

Ensure that the viscosity of the fluids in contact with the materials is verified.
The minimum ambient temperature of the valve is determined by the limitations of minimum temperature indicated.

SPECIFICATIONS

DN	flow coefficient Kv	pilot pressure (bar)			catalogue number
		3 → 2	1 → 2	2 → 1	
15	1.1	1.1	1.1	1.1	T398B26KDVA0000
20	1.6	1.6	1.6	1.6	T398B26KDVA0000
25	2.2	2.2	2.2	2.2	T398B26KDVA0000
32	3.0	3.0	3.0	3.0	T398B26KDVA0000
40	4.0	4.0	4.0	4.0	T398B26KDVA0000
50	5.0	5.0	5.0	5.0	T398B26KDVA0000



Consult page: **9**

ASCO VALVES SERIES T398

HOW TO ORDER

15-DIGIT PRODUCT CODE

Configuration - CAD Files

Connection: T = Flanges

Options: A00 = Universal

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 = Ø60 mm - G 1/8, 8 = Ø80 mm - NPT 1/8", D = Ø100 mm - G 1/8, E = Ø100 mm - NPT 1/8", K = Ø150 mm - G 1/4, L = Ø150 mm - NPT 1/4", M = Ø200 mm - G 1/4, N = Ø200 mm - NPT 1/4"

Port Type: D = Flanges DIN EN 1092-1 (ISO 7005) Standard, P = Flanges ANSI Class 300, E = Flanges DIN EN 1092-1 + Third way port threaded Gaz + Pp, S = Flanges ANSI Class 300 + Third way port threaded NPT

Option for ATEX compliance

AT1 = ATEX zones 1/21
AT2 = ATEX zones 2/22
LTP = PTFE disc for low temperature
MC2 = Dual mechanical Cont.
AD2 = Dual position
1S2 = Dual seal
...EX 1/21
...IP

Seal Material: T = PTFE, E = Metal-to-metal (stainless steel), V = PEEK

Consult page: **67**

full catalogue number: **T398B26KDVA100**

VALVES TO ATEX 2014/34/EU

OPTIONS / ACCESSORIES

for potentially explosive atmospheres series 298 and 398

Ex

2/2 - 3/2 Series 298 - 398

2 U valves designed for use in potentially explosive atmospheres according to ATEX Directive category 2
The Essential Health and Safety Requirements of the ATEX Directive has been assured by compliance Standards EN 13463-1 and EN 13463-5

INSTRUCTION / SPECIFICATIONS

the catalogued valve	catalogue page	classification (zones)			
		category 2			safety code (1)
DN	Pressure Operated Valves: 2/2, pages ► 53 (E298), 57 (T298), 61 (S298) 3/2, pages ► 3 (E398), 7 (T398), 11 (S398)	dust	gas		
			IIA	IIB	IIC
15 20 → 25 32 → 40 50	► = ◄	21	1	1	1
					⊕ II 2 GD c x°C (Tx)

Ts amb (1)	T fluid (1)	(2) x°C
180°C	250°C	= Surface temperature
180°C	195°C	(Tx) = Temperature class
130°C	130°C	Ts amb = Ambient temperature
95°C	95°C	T fluid = Fluid temperature
80°C	80°C	

option code (1)

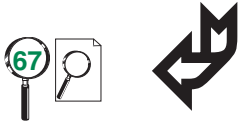
category 2

AT1

of the category/zone with the selected valve.

DN 20, solenoid operator Ø100 mm for use in zones 1 and 21 (category 2), catalogue number: **E298B04D0VAT100**

Consult: section: «Pressure Operated Valves»



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Example: You have selected a 2/2 series 290 pressure-operated valve. (section: «Pressure Operated Valves (2/2)»)
 You would like to know which products are suitable for use in explosive atmosphere zone 22.

Consult:

«Pressure Operated Valves (2/2)»



VALVES
pressure operated
bronze or stainless steel body
threaded ports, 3/8 to 2 1/2

FEATURES

- High flow due to angled seat design
- Anti-waterhammer design (fluid entry under the disc)
- Vacuum operation up to 10⁻² mbar
- Wide range of piston-type operators (32 - 50, 63 - 90 - 125 mm dia.) rotatable through 360°, for maximum performance at different minimum pilot pressures
- High performance, maintenance-free stuffing box
- The valves satisfy Pressure Equipment Directive 2014/68/EU, category 1 (DN > 25) or article 4.3 (DN ≤ 25)
- The valves in conformity with IEC 61508 Standard (2010 route 2, version) certified with integrity levels: SIL 2 for HFT = 0

GENERAL

Differential pressure See «SPECIFICATIONS» (1 bar = 100 kPa)
Maximum allowable pressure 16 bar
Ambient temperature range -10°C to +60°C
Maximum viscosity 600 cSt (mm²/s)
Fluid Filtered air or water ⁽¹⁾
Inlet pilot pressure 10 bar
Response time See below and following page
 -10°C to +60°C
 See page 7 (www.asco.com)

fluids (+)	temperature range	disc seal (+)
DN ≤ 50: air and gas groups 1 & 2 DN 65: air and gas group 2 all DN: water, oil, liquids groups 1 & 2 and steam	-10°C to +184°C	PTFE

MATERIALS IN CONTACT WITH FLUID
 (1) Ensure that the compatibility of the fluids in contact with the materials is verified

	Bronze body	Stainless steel body
valve body	Bronze	AISI 316L
stuffing box housing	Brass	AISI 316L
stem	Stainless steel	Stainless steel
disc	Brass	Stainless steel
stuffing box packing	PTFE chevrons	PTFE chevrons
liper seal	FPM	FPM
disc seal	PTFE	PTFE
valve body seal	PTFE	PTFE

OTHER MATERIALS

operator Glass fibre filled PA
optical position indicator PA 12, supplied standard on valves with 63, 90 and 125 mm operators

For dia. 32, 50, 63, 90 and 125 mm operators: At service fluid temperatures inside the valve body above 100°C, it is prohibited to pilot the valve with water.

SPECIFICATIONS

piping (ISO 6708)	flow coefficient Kv	pilot pressure (bar)	operating pressure differential (bar)				operator diameter (mm)	catalogue number				
			min.	air, inert gas aggressive fluids (+)	max.	water, oil, liquids aggressive liquids (+)		bronze	stainless steel			
3/8	10	2.5	4	10	0	16	16	10	32	-	E290A791	E290A792
1/2	15	4.9	8.2	4	10	0	16	16	10	50	E290A384	E290A393
											E290B042	E290B045
3/4	20	9.4	15.7	4	10	0	10	10	10	63	-	-
											-	-
1	25	12.8	21.3	4	10	0	6	6	10	90	E290B011	E290B054
											-	-

NC function, entry under the disc, 32 and 50 mm operators

NC function, entry under the disc, 63, 90 and 125 mm operators

→ Consult: Quick Selection Chart

Section: «Pressure Operated Valves (2/2)», page: 1V

in the rows: locate the series number E290

in the columns: locate ATEX zone 22

at the row/column intersection: find the ATEX-compatible products (identified by the logo:)

and identify the ATEX page number: 43

ASCO Quick Selection Chart - POTENTIALLY EXPLOSIVE ATMOSPHERES

page	series	DN	group I			group II			ATEX page
			dusts zone 22	gas zone 2	dusts zone 21	gas zone 1	dusts zone 1		
15	E290	10 → 65						43	
19	E290	10 → 65						43	
23	E290	10 → 20						43	
25	E290	10 → 20						43	
31	E290	10 → 65						43	
37	E290	10 → 65						43	
35	T290	25 → 50						43	

→ Consult page: 43



ACCESSORIES TO ATEX 2014/34/EU

OPERATORS / ACCESSORIES for use in potentially explosive atmospheres

series 290 and 390

2/2 - 3/2 Series 290 - 390

use in potentially explosive atmospheres in accordance with ATEX-Directive 2014/34/EU, and Safety Requirements has been assured by compliance with European Standards chemical, oil, gas and paint coating industries etc.

SPECIFICATIONS

page	classification (zones)	category 2		category 3			
		dusts	gas	dusts	gas		
35	(3/2)	IIA	IIB	IIC	IIA	IIB	IIC
21	1	1	1	1	2	2	2
21	1	1	1	1	2	2	2
21	1	1	1	1	2	2	2
21	1	1	1	1	2	2	2

suffix to be added to the valve's catalogue number ⁽¹⁾

category 2	category 3
GD2	GD3

used for use in zones 1 and 21 (category 2), catalogue number selected: **E290A384GD3**

Suffix GD3 behind the selected catalogue number: **E290A384GD3**