

2/2 way; DN 3/8" to 1"; 3 to 140 PSI



Advantages/Benefits



- ▶ **Easy Diagnostic:**
Detection of internal leakage and flow/no flow
- ▶ **Medium is isolated from actuator system**
- ▶ **Suitable for slightly contaminated liquids**
- ▶ **Compact size**
- ▶ **Low power consumption**
(no relay necessary when used on a PLC)
- ▶ **UL and CE approval**

Design/Function

The Type 6212 is a 2/2 way solenoid valve with servo-assisted diaphragm and rocker solenoid pilot valve.

Due to a separating diaphragm, the solenoid actuator is not in contact with the medium. A manual override is available on request.

The valve is available with an integrated flow detector and electronics which are integrated in the cable plug.

For the flow diagnostic function, two temperature compensated sensors are designed to detect small flow rates. Besides the valve position indication, it is also possible to detect and identify malfunctions such as leakages.

The application for the diagnostic function is neutral media from 50°F to 122°F. The switch threshold is shipped pre-adjusted for water and can easily be adapted for other media.

Applications

Fluids

- Neutral and slightly contaminated fluids, e.g. air, gas, water and oils
- Alkaline waste and bleaching lyes
- Oil and fat-free liquids
- Oxygen and compressed air
- Hot water and air to +122°F

Applications

- General Purpose applications
- Water / sewage treatment
- HVAC
- Process systems
- Chemical processing
- Gas distribution systems
- Medical service

Burkert Contromatic USA
2602 McGaw Avenue
Irvine, CA 92614
Tel. 949.223.3100
Fax 949.223.3198
www.burkert-usa.com

Burkert Contromatic Inc.
760 Pacific Road, Unit 3
Oakville, Ontario, Canada
L6L 6M5
Tel. 905.847.5566
Fax 905.847.9006

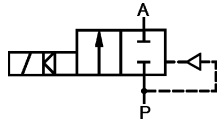
burkert
Easy Fluid Control Solutions

Technical Data Type 6212

Circuit Function

A – 2/2 way flow valve, normally closed, with 3 way rocker solenoid pilot valve

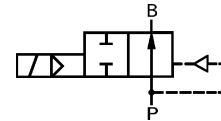
Symbol



Circuit Function

B – 2/2 way flow valve, normally open, with 3 way rocker solenoid pilot valve

Symbol



Valve Specifications

Pressure range	
normally closed	2.9 PSI up to 145 PSI
normally open	2.9 PSI up to 85 PSI
Port connection	NPT 3/8", 1/2", 3/4" and 1"
Fluids	
with NBR seal	Neutral liquids, e.g. water, oils and fat without additives
with EPDM seal	Oil and fat-free liquids, e.g. hot water, washing and bleaching lyes
with FPM seal	Per-solutions, hot oils, oils with additives
Medium temperature	
with NBR seal	32°F to 122°F (0°C to 50°C)
with EPDM seal	14°F to 122°F (-10°C to 50°C)
with FPM seal	32°F to 122°F (0°C to 50°C)
Maximum ambient temperature	130°F (+55°C)
Maximum viscosity	21 centistokes
Response times	
opening	0.1 to 0.5 s
closing	0.2 to 2.0 s
Installation	As required, but preferably with solenoid system upright

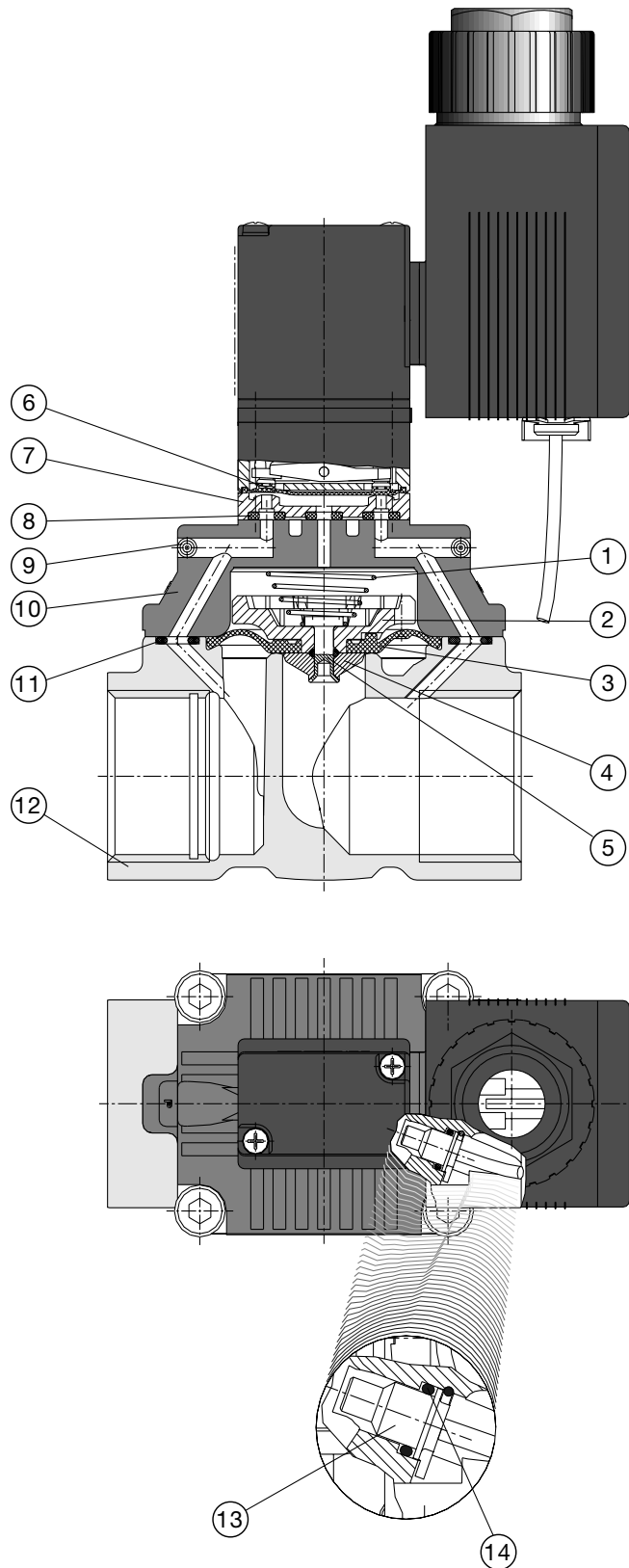
Solenoid Specifications

Operating voltages	24 VDC	
	120 VUC	
	230 VUC	
	(for AC, use cable plug Type 2506 with integrated rectifier)	
Voltage tolerances	±10%	
Power consumption	24 VDC	3.4 W
	110 - 120 VDC	4.0 W
	230 VDC	4.0 W
Duty cycle	100% continuously rated	
Cycling rate	Up to 15 c.p.m.	
Rating with cable plug	NEMA 4	
Electrical connection delivery standard:	Cable plug Type 2506 per DIN 43 650 Form C, 0 - 250 V (other versions see accessories)	

Diagnostic Specifications

Method	Thermometric measurement	
Operating voltages	24 VDC	
Power consumption	24 VDC, 4.9 W	
Signal output		
high flow	max.	$U_A - 1V, 50 mA$
	min.	$U_A - 3V, 50 mA$
low flow	≤	1V, 50 mA
Flow rates	See ordering chart. Low flow level adjustable with trimmer	
LED		
on	Flow	
off	No flow	
Fluids	Water, neutral and slightly contaminated fluids	
Medium temperature	≤50°F to 122°F (-10°C to 50°C)	

Materials



1. **Pressure spring**
301 Stainless Steel
2. **Diaphragm support**
PPS
3. **Diaphragm**
NBR, FPM (Viton) or EPDM
4. **Diaphragm holder**
PPS
5. **Bolt**
Brass
6. **Separating diaphragm**
FPM (Viton) or EPDM
7. **Flange body**
PPS
8. **O-ring**
FPM (Viton) or EPDM
9. **Steel ball**
316L Stainless Steel
10. **Cover**
Stainless Steel or PPE/PA
11. **O-ring**
NBR, FPM (Viton) or EPDM
12. **Valve body**
Brass,
316L Stainless Steel
(no diagnostic function with
Stainless Steel)
13. **Sensor body (thermo sensor)**
(optional diagnostic function)
Durethan
14. **O-rings**
FPM (Viton)

Solenoid Valve with Optional Diagnostic Function

For Slightly Contaminated Fluids

Type 6212

Ordering Chart (Other Versions on Request)

Type 6212 with Brass Body

Circuit Function	Port Connection	Orifice DN [inch]	C _v	Pressure Range [psi]	Seal Material	Weight [lbs.]	Item No.			
							Voltage			
							Coil Spades on the Side [24 DC]	With Rectifier, Varistor and Coil Spades on Top		
							[120 UC]	[240 UC]		
A	NPT 3/8"	3/8"	2.2	2.9-145	NBR	0.7	458 003 C	458 004 D	458 005 E	
					FPM	0.7	458 006 F	458 007 G	458 008 R	
					EPDM	0.7	458 009 J	458 010 E	458 011 T	
	NPT 1/2"	3/8"	2.2	2.9-145	NBR	0.6	458 015 X	458 016 Y	458 017 Z	
					FPM	0.6	458 018 A	458 019 B	458 020 G	
					EPDM	0.6	458 021 V	458 022 W	458 023 X	
	NPT 1/2"	1/2"	4.2	2.9-145	NBR	1.0	458 027 T	458 028 C	458 029 D	
					FPM	1.0	458 030 A	458 031 X	458 032 Y	
					EPDM	1.0	458 033 Z	458 034 S	458 035 T	
	NPT 3/4"	1/2"	4.2	2.9-145	NBR	0.8	458 039 F	458 040 L	458 041 H	
					FPM	0.8	458 042 A	458 043 B	458 044 C	
					EPDM	0.8	458 045 D	458 046 E	458 047 F	
	NPT 3/4"	3/4"	9.7	2.9-145	NBR	1.9	458 051 B	458 052 C	458 053 D	
					FPM	1.9	458 054 E	458 055 F	458 056 G	
					EPDM	1.9	458 057 H	458 058 J	458 059 K	
	NPT 1"	3/4"	9.7	2.9-145	NBR	1.9	458 063 F	458 064 G	458 065 H	
					FPM	1.9	458 066 A	458 067 B	458 068 L	
					EPDM	1.9	458 069 M	458 070 J	458 071 F	
B	NPT 3/8"	3/8"	2.2	2.9-85	NBR	0.7	458 157 A	458 158 K	458 159 L	
					FPM	0.7	458 160 R	458 161 E	458 162 F	
					EPDM	0.7	458 163 G	458 164 H	458 165 A	
	NPT 1/2"	3/8"	2.2	2.9-85	NBR	0.6	458 167 C	458 168 M	458 169 N	
					FPM	0.6	458 170 K	458 171 G	458 172 H	
					EPDM	0.6	458 173 A	458 174 B	458 175 C	
	NPT 1/2"	1/2"	4.2	2.9-85	NBR	1.0	458 177 E	458 178 P	458 179 Q	
					FPM	1.0	458 180 E	458 181 T	458 182 U	
					EPDM	1.0	458 183 V	458 184 W	458 185 X	
	NPT 3/4"	1/2"	4.2	2.9-85	NBR	0.8	458 187 Z	458 188 A	458 189 B	
					FPM	0.8	458 190 G	458 191 V	458 192 W	
					EPDM	0.8	458 193 X	458 194 Y	458 195 Z	
	NPT 3/4"	3/4"	9.7	2.9-85	NBR	1.9	458 197 T	458 198 C	458 199 D	
					FPM	1.9	458 200 S	458 201 P	458 202 Q	
					EPDM	1.9	458 203 R	458 204 J	458 205 K	
	NPT 1"	3/4"	9.7	2.9-85	NBR	1.9	458 207 M	458 208 W	458 209 X	
					FPM	1.9	458 210 K	458 211 G	458 212 H	
					EPDM	1.9	458 213 A	458 214 B	458 215 C	

Solenoid Valve with Optional Diagnostic Function For Slightly Contaminated Fluids

Type 6212

Ordering Chart (Other Versions on Request)

Type 6212 with Stainless Steel Body and Stainless Steel Cover

Circuit Function	Port Connection	Orifice DN [inch]	C _v	Pressure Range [psi]	Seal Material	Weight [lbs.]	Item No. Voltage		
							Coil Spades on the Side [24 DC]	With Rectifier, Varistor and Coil Spades on Top	
								[120 UC]	[240 UC]
A	NPT 3/8"	3/8"	2.2	2.9-145	FPM	0.7	458 133 S	458 134 T	458 135 U
	NPT 1/2"	3/8"	2.2	2.9-145	FPM	0.6	458 137 W	458 138 F	458 139 G
	NPT 1/2"	1/2"	4.2	2.9-145	FPM	0.9	458 141 A	458 142 B	458 143 C
	NPT 3/4"	1/2"	4.2	2.9-145	FPM	0.7	458 145 E	458 146 F	458 147 G
	NPT 3/4"	3/4"	9.7	2.9-145	FPM	2.1	458 149 J	458 150 P	458 151 C
	NPT 1"	3/4"	9.7	2.9-145	FPM	2.1	458 153 E	458 154 F	458 155 G
B	NPT 3/8"	3/8"	2.2	2.9-85	FPM	0.7	458 217 E	458 218 P	458 219 Q
	NPT 1/2"	3/8"	2.2	2.9-85	FPM	0.6	458 221 A	458 222 B	458 223 C
	NPT 1/2"	1/2"	4.2	2.9-85	FPM	0.9	458 225 E	458 226 F	458 227 G
	NPT 3/4"	1/2"	4.2	2.9-85	FPM	0.7	458 229 J	458 230 P	458 231 C
	NPT 3/4"	3/4"	9.7	2.9-85	FPM	2.1	458 233 E	458 234 F	458 235 G
	NPT 1"	3/4"	9.7	2.9-85	FPM	2.1	458 237 A	458 238 K	458 239 L

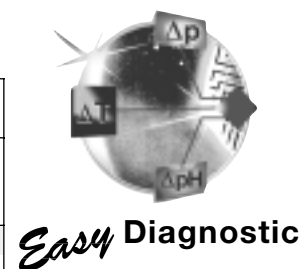
Solenoid Valve with Optional Diagnostic Function For Slightly Contaminated Fluids

Type 6212

Ordering Chart (Other Versions on Request)

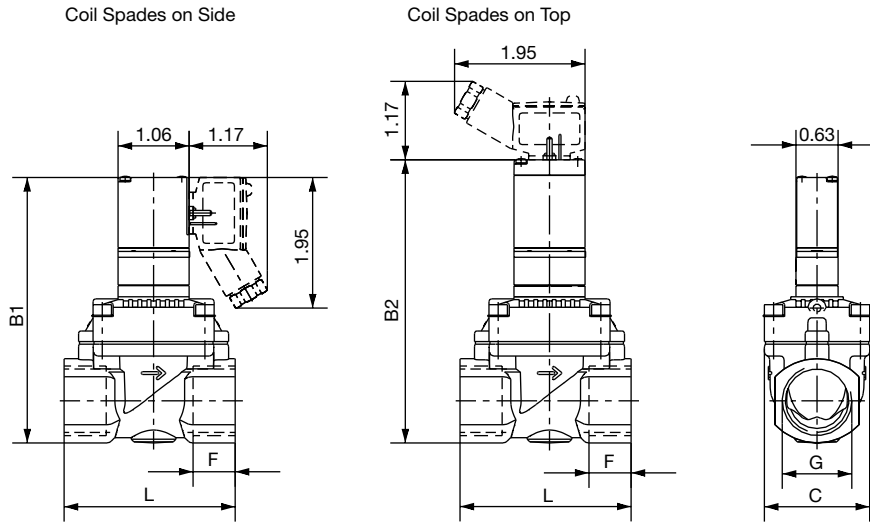
Type 6212 Diagnostic Version with Brass Body (Stainless Steel on Request)
with Integrated Flow Sensor

Circuit Function	Port Connection	Orifice DN [inch]	High Flow Rate [gpm]	Low Flow Rate [gpm]	Pressure Range [psi]	Seal Material	Weight [lbs.]	Item No.
								Voltage
A	NPT 3/8"	3/8"	8.5	0.8	2.9-145	NBR	0.8	458 012 U
	NPT 1/2"	3/8"	8.5	0.8	2.9-145	NBR	0.7	458 024 Y
	NPT 1/2"	1/2"	15.8	4.8	2.9-145	NBR	1.0	458 036 U
	NPT 3/4"	1/2"	15.8	4.8	2.9-145	NBR	0.9	458 048 Q
	NPT 3/4"	3/4"	36.5	7.9	2.9-145	NBR	2.0	458 060 Q
	NPT 1"	3/4"	36.5	7.9	2.9-145	NBR	2.0	458 072 G
B	NPT 3/8"	3/8"	8.5	0.8	2.9-85	NBR	0.8	458 166 B
	NPT 1/2"	3/8"	8.5	0.8	2.9-85	NBR	0.7	458 176 D
	NPT 1/2"	1/2"	15.8	4.8	2.9-85	NBR	1.0	458 186 Y
	NPT 3/4"	1/2"	15.8	4.8	2.9-85	NBR	0.9	458 196 S
	NPT 3/4"	3/4"	36.5	7.9	2.9-85	NBR	2.0	458 206 L
	NPT 1"	3/4"	36.5	7.9	2.9-85	NBR	2.0	458 216 D



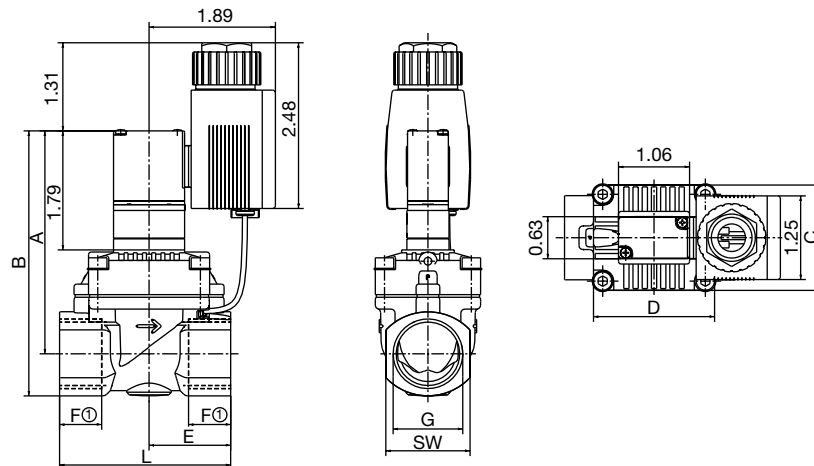
Dimensions [inch] Type 6212

Standard Version:



G	Orifice	B1	B2	C	F	L
NPT 3/8"	3/8"	3.72	3.98	1.25	0.40	2.16
NPT 1/2"	3/8"	3.72	3.98	1.25	0.54	2.16
NPT 1/2"	1/2"	3.97	4.19	1.57	0.54	2.56
NPT 3/4"	1/2"	3.97	4.19	1.57	0.55	2.56
NPT 3/4"	3/4"	4.50	4.76	2.36	0.55	3.93
NPT 1"	3/4"	4.50	4.76	2.36	0.66	3.93

Diagnostic Version:



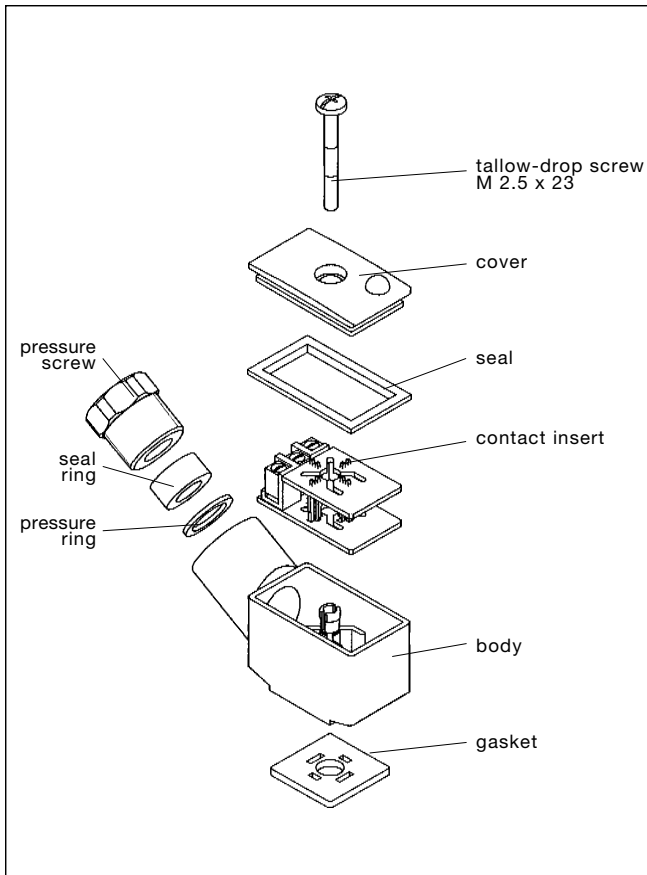
G	Orifice	A	B	C	D	E	F1	L	SW
NPT 3/8"	3/8"	3.16	3.72	1.25	1.25	0.98	0.40	2.16	1.06
NPT 1/2"	3/8"	3.16	3.72	1.25	1.25	0.98	0.54	2.16	1.06
NPT 1/2"	1/2"	3.34	3.97	1.57	1.81	1.22	0.54	2.56	1.25
NPT 3/4"	1/2"	3.34	3.97	1.57	1.81	1.22	0.55	2.56	1.25
NPT 3/4"	3/4"	3.70	4.50	2.36	2.36	1.96	0.55	3.93	1.61
NPT 1"	3/4"	3.70	4.50	2.36	2.36	1.96	0.66	3.93	1.61

Solenoid Valve with Optional Diagnostic Function

For Slightly Contaminated Fluids

Type 6212

Exploded View Cable Plug Type 2506 (Accessory)



Ordering Chart for Accessories

Device Accessory	Features	Item No.
Cable plugs ¹⁾ Type 2506	Standard cable plug	008 353 P
	0 - 250 V AC/DC (standard delivery) ¹⁾	
	with LED	008 402 A
	12 - 24 V AC/DC	
	with LED	008 403 B
	100 - 120 V AC/DC	
	with LED	008 404 C
	200 - 240 V AC/DC	
	with rectifier, LED and varistor	008 354 Q
	12 - 24 V AC/DC	
	with rectifier, LED and varistor	008 355 R
	100 - 120 V AC/DC	
	with rectifier, LED and varistor	008 356 J
	200 - 240 V AC/DC	
	with LED and varistor	008 408 Q
	12 - 24 V AC/DC	
with LED and varistor	008 409 R	
100 - 120 V AC/DC		
with LED and varistor	008 410 D	
200 - 240 V AC/DC		
with pole protection, suppressor diode & LED	008 411 S	
12 - 24 V DC		
with rectifier and varistor	008 412 T	
12 - 240 V AC/DC		
(optional wirings and connection specifications see data sheet Type 2506)		

¹⁾ The standard cable plug (0 - 250 V AC/DC), Item No. 008 353 P is part of the standard delivery.

Order optional cable plugs with separate Item No.
A wide selection of additional cable plugs is available
(see special data sheet Type 2506).