

2/2 way; DN 10 up to 20 mm; 0.2 up to 10 bar



### Advantages/Benefits



- ▶ **Easy Diagnostic:**  
Self-detection of leakage and flow/no flow
- ▶ **Medium is separated from actuator system**
- ▶ **For slightly contaminated liquids**
- ▶ **Compact size**
- ▶ **Low power consumption**  
(no relay necessary when used on a PLC)

### Design/Function

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

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

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

Concerning the flow diagnosis function, two temperature compensated sensors are detecting smallest flow rates. Besides the valve position indication, it is also possible to detect and identify malfunctions such as leakages.

The application of the diagnosis function is neutral media from +10 up to +60°C. The switch threshold is being pre-adjusted for water ex-works and can easily be adapted for other media.

### Applications

#### Fluids

- Neutral and slightly contaminated fluids, e.g. air, gas, water and oils
- Alkaline washing and bleaching lyes
- Oil and fat-free liquids
- Oxygen and compressed air
- Hot water and air up to +70°C

#### Applications

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

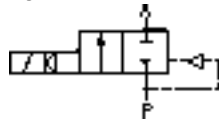
**bürkert**  
Easy Fluid Control Systems

## Technical data type 6212

### Circuit Function

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

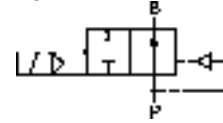
### Symbol



### Circuit Function

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

### Symbol



## Valve specifications

Pressure range	0.2 up to 10 bar
Port connection	G 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	0 up to +70°C
with EPDM seal	-10 up to +70°C
with FPM seal	0 up to +70°C
Max. ambient temp.	+55°C
Max. viscosity	21 mm <sup>2</sup> /s
Response times	
opening	0.1 up to 0.5 s
closing	0.2 up to 2.0 s
Installation	as required, but preferably with solenoid system upright

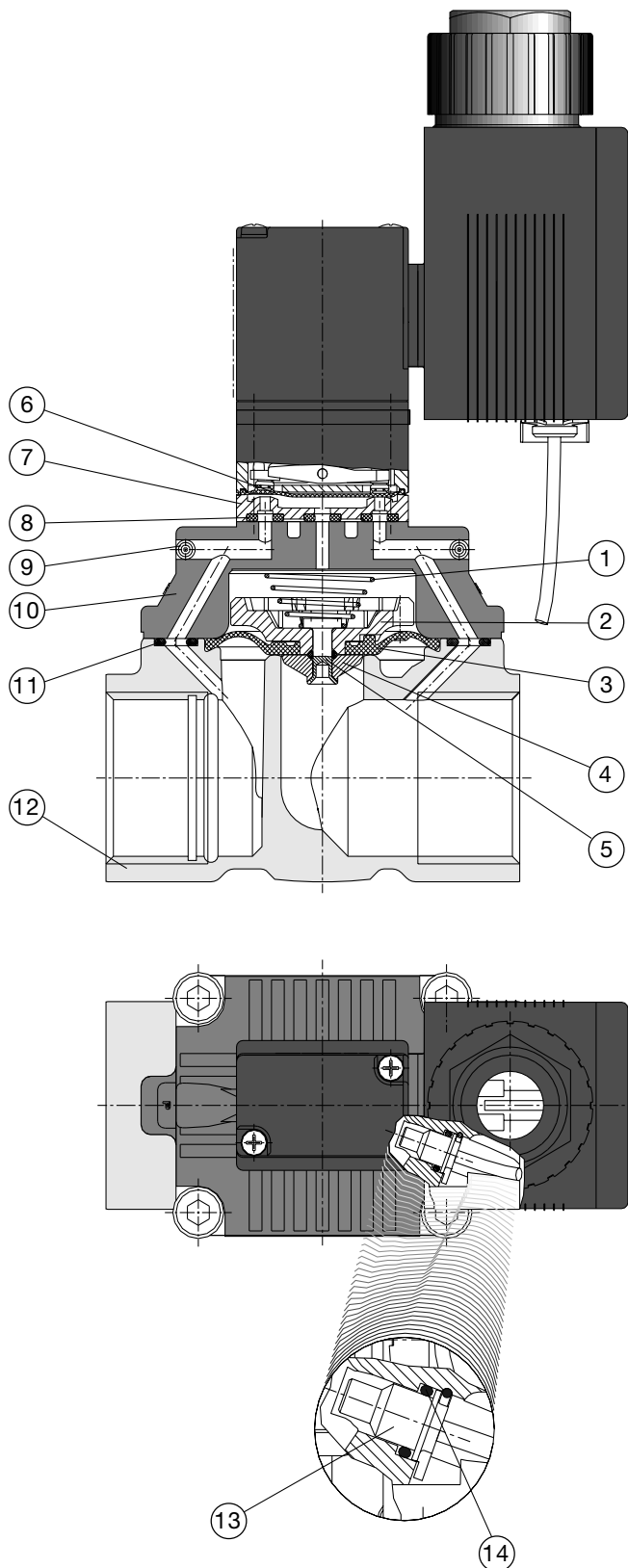
## Solenoid specifications

Operating voltages	24 V/DC 110 - 120 V/DC 230 V/DC (for AC, use cable plug type 2506 with integrated rectifier)
Voltage tolerances	±10%
Power consumption	
24 V/DC	3.4 W
110 - 120 V/DC	4.0 W
230 V/DC	4.0 W
Duty cycle	100% continuously rated
Cycling rate	up to 15 c.p.m.
Rating with cable plug	IP 65
Electrical connection	
delivery standard:	cable plug type 2506 acc. DIN 43 650 Form C, 0 - 250 V (other versions see accessories)

## Diagnosis version

Methode	thermometrical measurement
Operating voltages	24 V/DC
Power consumption	
24 V/DC	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	≤ 60°C

Materials



1. **Pressure spring**  
SS 1.4310
2. **Diaphragm support**  
PPS
3. **Diaphragm**  
NBR, FPM or EPDM
4. **Diaphragm holder**  
PPS
5. **Bolt**  
Brass
6. **Separating diaphragm**  
FPM or EPDM
7. **Flange body**  
PPS
8. **O-ring**  
FPM or EPDM
9. **Steel ball**  
Steel 1.4401
10. **Cover**  
SS or PA
11. **O-ring**  
NBR, FPM or EPDM
12. **Valve body**  
Brass, SS 1.4404 / 316L
13. **Sensor body (thermo sensor)**  
(optional diagnosis function)  
Durethan
14. **O-rings**  
FPM

# Solenoid Valve with optional Diagnosis Function for slightly contaminated fluids

# Type 6212

## Ordering chart (other versions on request)

### Type 6212 with brass body

Circuit function	Port Connection	Orifice (DN) [mm]	Kv-value water [m³/h]	Pressure range *) [bar]	Seal material	Weight [kg]	Item-No. Voltage				
							with pin assignment sideways (coil)	with rectifier, varistor and pin assignment above (coil)			
							[24 DC]	[110 - 120 AC/DC]	[230 AC/DC]		
A	G 3/8	10.0	1.9	0.2 – 10	NBR	0.313	138 930 U	138 931 R	138 932 J		
					FPM	0.313	138 933 K	138 934 L	138 935 M		
					EPDM	0.313	138 936 N	138 937 P	138 938 Y		
	G 1/2	10.0	1.9		NBR	0.276	138 943 V	138 944 W	138 945 X		
					FPM	0.276	138 946 Y	138 947 Z	138 948 A		
					EPDM	0.276	138 949 B	138 950 G	138 951 V		
	G 1/2	13.0	3.6		NBR	0.435	138 956 S	138 957 T	138 958 C		
					FPM	0.435	138 959 D	138 960 A	138 961 X		
					EPDM	0.435	138 962 Y	138 963 Z	138 964 S		
	G 3/4	13.0	3.6		NBR	0.356	138 968 E	138 969 F	138 970 C		
					FPM	0.356	138 971 Z	138 972 S	138 973 T		
					EPDM	0.356	138 974 U	138 975 V	138 976 W		
	G 3/4	20.0	8.3		NBR	1.030	138 980 X	138 981 L	138 982 M		
					FPM	1.030	138 983 N	138 984 P	138 985 Q		
					EPDM	1.030	138 986 R	138 987 J	138 988 T		
	G 1	20.0	8.3		NBR	0.853	138 992 P	138 993 Q	138 994 R		
					FPM	0.853	138 995 J	138 996 K	138 997 L		
					EPDM	0.853	138 998 V	138 999 W	139 000 D		
	B	G 3/8	10.0		1.9	0.2 – 10	NBR	0.313	139 602 H	139 603 A	139 604 B
							FPM	0.313	139 605 C	139 606 D	139 607 E
							EPDM	0.313	139 608 P	139 609 Q	139 610 C
		G 1/2	10.0		1.9		NBR	0.276	139 612 S	139 613 T	139 614 U
							FPM	0.276	139 615 V	139 616 W	139 617 X
							EPDM	0.276	139 618 G	139 619 H	139 620 E
G 1/2		13.0	3.6	NBR	0.435		139 622 U	139 623 V	139 624 W		
				FPM	0.435		139 625 X	139 626 Y	139 627 Z		
				EPDM	0.435		139 628 A	139 629 B	139 630 G		
G 3/4		13.0	3.6	NBR	0.356		139 632 W	139 633 X	139 634 Y		
				FPM	0.356		139 635 Z	139 636 S	139 637 T		
				EPDM	0.356		139 638 C	139 639 D	139 640 J		
G 3/4		20.0	8.3	NBR	1.030		139 642 G	139 643 H	139 644 A		
				FPM	1.030		139 645 B	139 646 C	139 647 D		
				EPDM	1.030		139 648 N	139 649 P	139 650 L		
G 1		20.0	8.3	NBR	0.853		139 652 A	139 653 B	139 654 C		
				FPM	0.853		139 655 D	139 656 E	139 657 F		
				EPDM	0.853		139 658 Q	139 659 R	139 660 N		

# Solenoid Valve with optional Diagnosis 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)	Kv-value water	Pressure range *)	Seal material	Weight	Item-No. Voltage			
							with pin assignment			
							with pin assignment sideways (coil)	with rectifier, varistor and pin assignment above (coil)		
		[mm]	[m³/h]	[bar]		[kg]	[24 DC]	[110 - 120 AC/DC]	[230 AC/DC]	
A	G 3/8	10.0	1.9	0.2 – 10	FPM	0.300	139 578 G	139 579 H	139 580 X	
	G 1/2	10.0	1.9			0.260	139 582 M	139 583 N	139 584 P	
	G 1/2	13.0	3.6			0.405	139 586 R	139 587 J	139 588 T	
	G 3/4	13.0	3.6			0.325	139 590 Z	139 591 N	139 592 P	
	G 3/4	20.0	8.3			1.120	139 594 R	139 595 J	139 596 K	
	G 1	20.0	8.3			0.940	139 598 V	139 599 W	139 600 K	
	G 3/8	10.0	1.9			EPDM	0.300	140 669 Y	140 670 V	140 671 J
	G 1/2	10.0	1.9				0.260	140 673 L	140 674 M	140 675 N
	G 1/2	13.0	3.6				0.405	140 677 Q	140 678 Z	140 679 S
	G 3/4	13.0	3.6				0.325	140 681 D	140 682 E	140 683 F
G 3/4	20.0	8.3	1.120	140 685 H	140 686 A	140 687 B				
G 1	20.0	8.3	0.940	140 689 M	140 690 J	140 691 F				
B	G 3/8	10.0	1.9	0.2 – 10	FPM	0.300	139 662 C	139 663 D	139 664 E	
	G 1/2	10.0	1.9			0.260	139 666 G	139 667 H	139 668 J	
	G 1/2	13.0	3.6			0.405	139 670 Q	139 671 D	139 672 E	
	G 3/4	13.0	3.6			0.325	139 674 G	139 675 H	139 676 A	
	G 3/4	20.0	8.3			1.120	139 678 L	139 679 M	139 680 B	
	G 1	20.0	8.3			0.940	139 682 Z	139 683 S	139 684 T	
	G 3/8	10.0	1.9			EPDM	0.300	140 711 A	140 712 B	140 713 C
	G 1/2	10.0	1.9				0.260	140 715 E	140 716 F	140 717 G
	G 1/2	13.0	3.6				0.405	140 719 J	140 720 P	140 721 C
	G 3/4	13.0	3.6				0.325	140 723 E	140 724 F	140 725 G
G 3/4	20.0	8.3	1.120	140 727 A	140 728 K	140 729 L				
G 1	20.0	8.3	0.940	140 731 E	140 732 F	140 733 G				

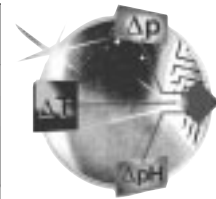
### Type 6212 with stainless steel body and polyamid cover

Circuit function	Port Connection	Orifice (DN)	Kv-value water	Pressure range *)	Seal material	Weight	Item-No. Voltage		
							with pin assignment		
							with pin assignment sideways (coil)	with rectifier, varistor and pin assignment above (coil)	
		[mm]	[m³/h]	[bar]		[kg]	[24 DC]	[110 - 120 AC/DC]	[230 AC/DC]
A	G 3/8	10.0	1.9	0.2 – 10	NBR	0.250	140 693 H	140 694 A	140 695 B
	G 1/2	10.0	1.9			0.210	140 696 C	140 697 D	140 698 N
	G 1/2	13.0	3.6			0.325	140 699 P	140 700 U	140 701 R
	G 3/4	13.0	3.6			0.250	140 702 J	140 703 K	140 704 L
	G 3/4	20.0	8.3			0.953	140 705 M	140 706 N	140 707 P
	G 1	20.0	8.3			0.770	140 708 Y	140 709 Z	140 710 M
B	G 3/8	10.0	1.9	0.2 – 10	NBR	0.250	140 735 A	140 736 B	140 737 C
	G 1/2	10.0	1.9			0.210	140 738 M	140 739 N	140 740 T
	G 1/2	13.0	3.6			0.325	140 741 Q	140 742 R	140 743 J
	G 3/4	13.0	3.6			0.250	140 744 K	140 746 M	140 747 N
	G 3/4	20.0	8.3			0.953	140 748 X	140 749 Y	140 750 V
	G 1	20.0	8.3			0.770	140 751 J	140 752 K	140 753 L

## Ordering chart (other versions on request)

### Type 6212 diagnosis version with brass body (stainless steel on request) with integrated flow sensor

Circuit function	Port Connection	Orifice (DN) [mm]	High flow level (Kv/water) [l/min]	Low flow level <sup>1)</sup> (water) [l/min]	Pressure range *) [bar]	Seal material	Weight [kg]	Item-No. Voltage
								with pin assignment sidewards (coil) [24 DC]
A	G 3/8	10.0	32	3	0.2 – 10	NBR	0.356	138 939 Z
	G 1/2	10.0	32	3				138 952 W
	G 1/2	13.0	60	18				138 965 T
	G 3/4	13.0	60	18				138 977 X
	G 3/4	20.0	138	30				138 989 U
	G 1	20.0	138	30				139 001 S
B	G 3/8	10.0	32	3	0.2 – 10	NBR	0.356	139 611 Z
	G 1/2	10.0	32	3				139 621 T
	G 1/2	13.0	60	18				139 631 V
	G 3/4	13.0	60	18				139 641 F
	G 3/4	20.0	138	30				139 651 H
	G 1	20.0	138	30				139 661 B



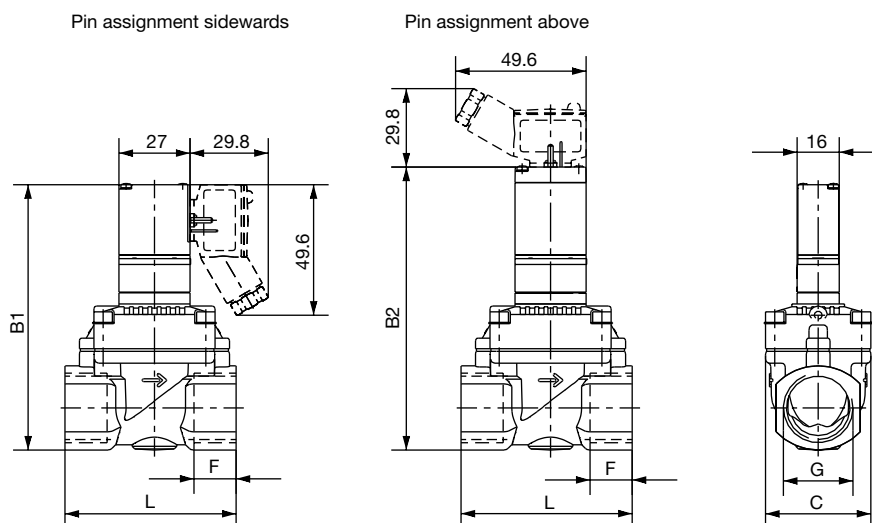
*Easy* Diagnostic

- 1) • adjustable with trimmer  
• other low flow levels available on request



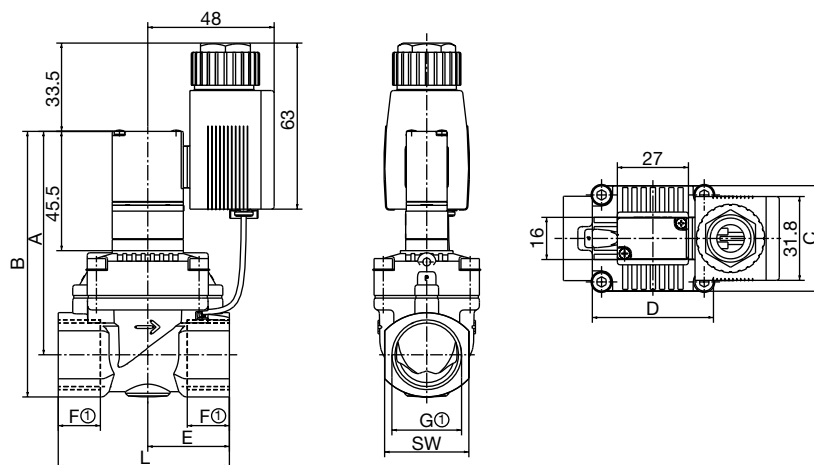
## Dimensions [mm] type 6212

### Standard version:



DN	G	B1	B2	C	F	L
10	G 3/8	94.5	101.1	32	12	55
10	G 1/2	94.5	101.1	32	14	55
13	G 1/2	101.0	106.6	40	14	65
13	G 3/4	101.0	106.6	40	16	65
20	G 3/4	114.5	121.1	60	16	100
20	G 1	114.5	121.1	60	18	100

### Diagnosis version:

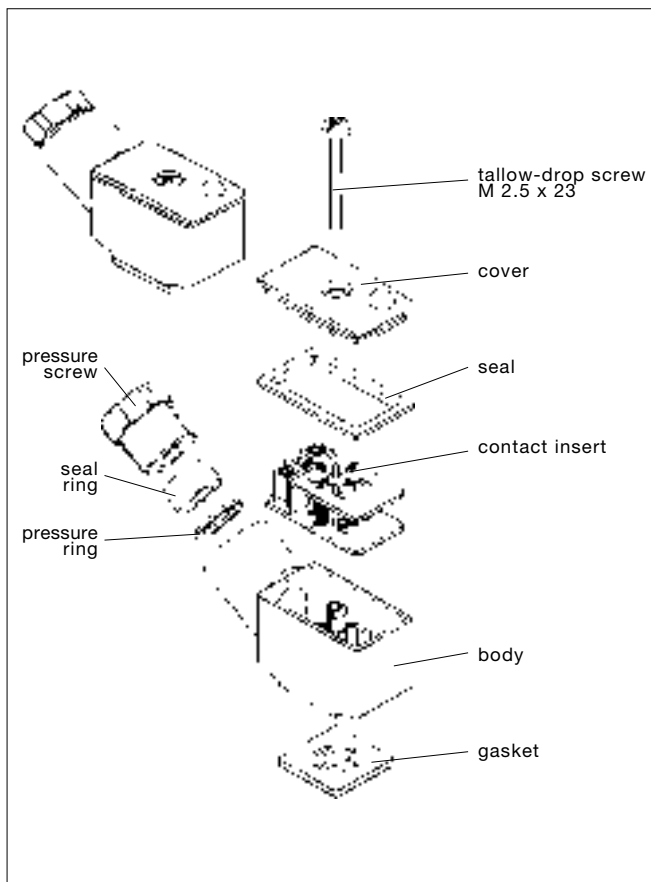


DN	A	B	C	D	E	F1	G1	L	SW
10	80.5	94.5	32	32	25	12	G 3/8	55	27
10	80.5	94.5	32	32	25	14	G 1/2	55	27
13	85	101	40	46	31	14	G 1/2	65	32
13	85	101	40	46	31	16	G 3/4	65	32
20	94	114.5	60	60	50	16	G 3/4	100	41
20	94	114.5	60	60	50	18	G 1	100	41

# Solenoid Valve with optional Diagnosis 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 <sup>1)</sup> Type 2506	Standard cable plug 0 - 250 V AC/DC (standard delivery) <sup>1)</sup>	008 353 P	
	with LED 12 - 24 V AC/DC	008 402 A	
	with LED 100 - 120 V AC/DC	008 403 B	
	with LED 200 - 240 V AC/DC	008 404 C	
	with rectifier, LED and varistor 12 - 24 V AC/DC	008 354 Q	
	with rectifier, LED and varistor 100 - 120 V AC/DC	008 355 R	
	with rectifier, LED and varistor 200 - 240 V AC/DC	008 356 J	
	with LED and varistor 12 - 24 V AC/DC	008 408 Q	
	with LED and varistor 100 - 120 V AC/DC	008 409 R	
	with LED and varistor 200 - 240 V AC/DC	008 410 D	
	with pole protection, suppressor diode & LED 12 - 24 V DC	008 411 S	
	with rectifier and varistor 12 - 240 V AC/DC	008 412 T	
	(optional wirings and connection specifications see data sheet type 2506)		

<sup>1)</sup> The standard cable plug (0 - 250 V AC/DC), Item-No. 008 353 P is part of the standard delivery.  
Ordering of optional cable plugs with separate ordering number.

A wide selection of further cable plugs is available  
(see special data sheet type 2506).