G 1/4

Advantages/Benefits

- **EEx ed IIC T4**
- **Body material: brass, stainless steel**
- **Metal-sealed pressurized parts**
- **Push-over coil**
- **High sealing capacity, even with large temperature fluctuations**

Design/Function

Type 744 is a direct-acting plunger-type solenoid valve, normally closed by spring action (circuit function C), or normally open by spring action (circuit function D).

When energized, the solenoid armature is drawn against a spring.

The flow path through the valve is dependent upon the chosen circuit function.

Single-phase bridge and varistor are housed in a flameproof enclosure to protection classification “d”.

Coil and terminal box correspond to protection classification “e”, i.e. increased safety.

The solenoid epoxy encapsulation efficiently dissipates the heat generated by the coil.

Applications

- Valve to control pneumatic cylinders or rotary actuators
- Handling systems in hazardous areas
- Separators
- Analytical devices
- Offshore-technology
- Petrochemical
- Dosing and mixing systems
- Vacuum

bürkert
Easy Fluid Control Systems

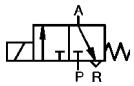
3/2-Way Solenoid Valve, Direct-acting

Type 744

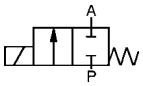
Technical Data

Circuit Function (The circuit functions A, B, D, E or F are developed from the valve in circuit function C by interchanging or plugging the connections.)

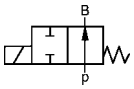
C 3/2-way valve, when de-energized, outlet A exhausted.



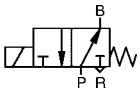
A 2/2-way valve, normally closed.



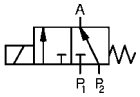
B 2/2-way valve, normally open.



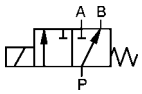
D 3/2-way valve, when de-energized, outlet B pressurized.



E Mixer valve, when de-energized, pressure port P_2 open, P_1 closed.



F 3/2-way distributor valve, when de-energized, pressure port P connected to outlet B.



Body Material

Brass, seat 1.4305 or 1.4410 (stainless steel)
Valve internals 1.4105, 14303

PTB-No. Ex-88.B.1049

Specifications

Orifice DN	Kv-Value Water	QNn-Value Air	Pressure Range [1] Circuit Function C		Weight
			Gas	Liquid	
[mm]	[m³/h]	[l/min]	[bar]	[bar]	[kg]
2	0,11	120	0-16	0-12	0,9
3	0,20	200	0- 7	0- 2,5	0,9
4	0,40	320	0- 3,5	0- 1	0,9

[1] Also suitable for technical vacuum.

All pressures quoted are gauge pressures with respect to the prevailing atmospheric pressure.

Operating Data (Valve)

Seal Materials / Fluids Handled / Temp.-Range

NBR Neutral fluids, e.g. compressed air, water, hydraulic oil, oils and fat without additives, town gas
-10 to +90 °C

FPM Hot air, oxygen, per-solutions, hot oils, oils with additves. -10 to +90 °C

For more detailed information please refer to resistance chart (Leaflet-No. 1896009).

Max. ambient temperature +40°C

Max. viscosity 21 mm²/s

Port connection G 1/4

Response times opening approx. 80 ms
closing approx. 80 ms

Times measured at outlet A or B from switching on until pressure rise to 90 % / pressure drops to 10 % at a max. working pressure of 6 bar.

Operating Data (Actuator)

Operating voltages 24, 110, 220, 240 V/UC (universal current)

A bridge rectifier has been incorporated in the solenoid system, which makes it suitable for both direct and alternating current. (universal current to DIN 40700).

Voltage tolerance ±10 %

Power consumption 10 W

Rating IP 65

Installation / Accessories

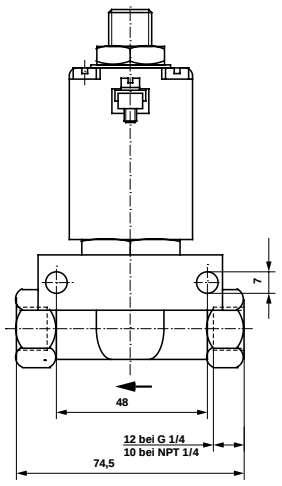
Installation	as required, but preferably with solenoid system upright
Electrical connection	• moulded-in cable HO5RN-F3 G, 3x 0,75 mm², length 3 m, with tension relieving cable gland • junction box on request
Safety fuse	A safety fuse with a medium response time and rated according to the nominal current should be incorporated in the circuit.

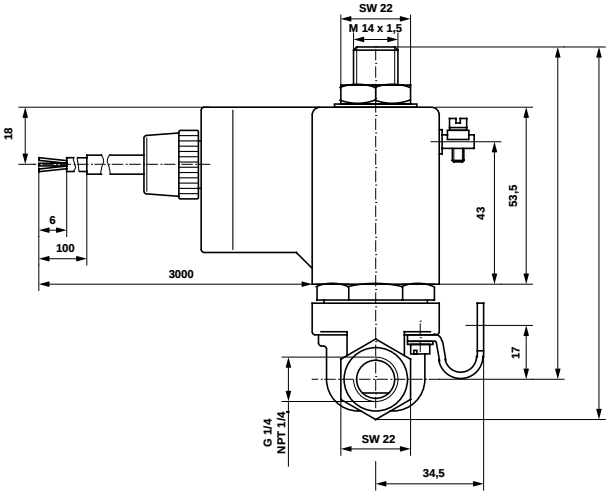
Valve Used as Different Circuit Functions

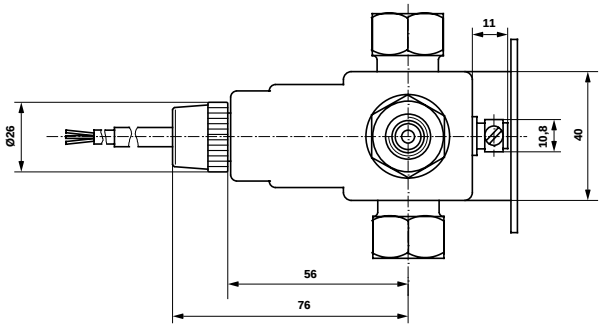
If used for another circuit function, the recommended operating pressures will vary according to the following chart:

Valve Version		Max. operating pressure [bar] used in circuit function					
Orifice [mm]	Circuit Function	A	B	C	D	E	F
2	C	16	25	16	2	2	25
3	C	7	11	7	1	1	11
4	C	3,5	6	3,5	0,5	0,5	6

Dimensions in mm







Ordering Chart (Other Versions on Request)

Circuit Function	Orifice DN [mm]	Flow Rate Water Kv-Value [m³/h]	Air [1] QNn [l/min]	Port Connection (ISO 228)	Pressure Range ⚠ [bar]	Body Material	Seal Material	Weight [kg]	Voltage/ Frequency [V/Hz]	**Order-No.**
C	2,0	0,11	100	G 1/4	0-16	Brass	NBR	0,9	024/UC	089 481 J [2]
									110/UC	089 482 K [2]
									220/UC	089 483 L [2]
									240/UC	089 484 M [2]
						Stainless	FPM	0,9	024/UC	076 334 X
									110/UC	076 335 Y
									220/UC	076 336 Z
									240/UC	076 337 S
	3,0	0,20	200	G 1/4	0- 7	Brass	NBR	0,9	024/UC	089 489 S [2]
									110/UC	089 490 X [2]
									220/UC	086 766 T [2]
									240/UC	089 491 L [2]
						Stainless	FPM	0,9	024/UC	076 339 C
									110/UC	076 340 R
									220/UC	076 341 E
									240/UC	076 338 B
	4,0	0,40	400	G 1/4	0- 3,5	Brass	NBR	0,9	024/UC	089 496 R [2]
									110/UC	089 497 J [2]
									220/UC	089 498 T [2]
									240/UC	089 499 U [2]
						Stainless	FPM	0,9	024/UC	076 342 F
									110/UC	076 343 G
									220/UC	076 344 H
									240/UC	076 345 A

[1] Also suitable for technical vacuum, [2] Without mounting brackets. ⚠ Lower pressure range for liquids (see specification chart on page 2).

Order-No. for Accessories

Safety Fuses	[mA]	Order-No.
24 V	1000	007 077 V
110 V	315	007 055 X
220/240 V	160	007 070 A