

Solenoids

Dorot / Gevasol



Netafim offers a complete package of solenoids for diaphragm valves with different properties. The following factors play an important role when selecting the right solenoid:

Electrical characteristics	: voltage, frequency and output
Screw thread connections	: 3/4" UNF or M20x1
Version	: 2-way or 3-way
Type of diaphragm valve	: Normally Open / Normally Closed
Control	: water or air
Energising time	: more heating occurs with prolonged energisation
Diaphragm chamber volume	
Working pressure	

Agricultural solenoids

"Agricultural" solenoids are used as standard by Dorot. These solenoids have a one-piece 3/4" UNF fitting and are suitable for most applications, such as ebb and flow, sprinkler and substrate installations.

TECHNICAL DATA

2-way agricultural (Dorot)	: 24 VAC-50/60 Hz (inrush 3 W, holding 1.4 W)
	: 24VDC (4.5W) (holding 2.9W)
	: 12VDC (4.5W) (holding 3.4W)
	: 9-12VDC pulse (latch)
	: 3/4" UNF



3-way agricultural (Dorot)	: 24VAC-50/60Hz (3W)
	: 24VDC (4.5W)
	: 12VDC (4.5W) (holding 3.4W)
	: 9V pulse (latch)
	: 3/4" UNF



2-way industrial (G-80)	: 24VAC-50/60Hz (7,5W)
	: 24VDC (6.5W)
	: 230V-50/60Hz (7,5W)
	: 3/4" UNF



Industrial solenoids (G80)

If more than just a solenoid is required, an "industrial" solenoid (G80) can be the solution. These solenoids have a 3/4" UNF connection and a modular design. They are also available on a "base block" and have a loose stainless steel operator, loose solenoid and connecting plug.

Industrial solenoids (Gem Sol)

The "industrial" solenoids from Gem Sol have an M20x1 connection and thus fit directly onto a Dorot 75 3-way diaphragm valve. The modular range of "industrial" Gem Sol solenoids is large, allowing us to offer a tailor-made solution for every situation. This line has a wide variety of powers and nozzle diameters in the robust brass "base blocks" with stainless steel operators. The 2.5 watt solenoid, for example, is ideal for applications with prolonged energisation. All parts are of a high quality, resulting many years of dependability. An overview of the combination possibilities of the parts programme can be found in the table.

3-way industrial
(G-80)
For Dorot-80

- : 24VAC-50/60Hz (4W)
- : 24VDC (6.5W)
- : 230V-50Hz (4W)
- : 3/4" UNF
- : Available with base block (NO/NC)



3-way industrial
(Gem Sol)

- : 24VAC-50Hz (5.5W)
- : 24VAC-60Hz (5.5W)
- : 24VDC (5.5W)
- : 230V-50/60Hz (5.5W)
- : M20x1
- : Application on Dorot 75 3-way and (in combination with "base block") on other valves



Table of interchangeable parts for 3-way industrial solenoid (Gem Sol)



	Complete solenoid type	Nozzle (mm)	Solenoid (Watt)	Operator (1*)	Plunger (2*)		
AC voltage	Normally Open	24VAC-50Hz (NO)	1,6	8W	ADC(AC)	NO	
			1,6	5,5W	AC	NO	
		24VAC-60Hz (NO)	2,4	8W	ADC(AC)	NO	
			2,4	5,5W	AC	NO	
		Normally Closed	24VAC-50/60Hz (NO)	1,6	8W	ADC(AC)	NO
				1,6	5,5W	AC	NO
	230V 50/60Hz (NO)		2,4	8W	ADC(AC)	NO	
			2,4	5,5W	AC	NO	
	DC voltage	Normally Open	24VAC-50Hz (NC)	1,6	8W	ADC(AC)	NC
				1,6	5,5W	AC	NC
			24VAC-60Hz (NC)	2,4	8W	ADC(AC)	NC
				2,4	5,5W	AC	NC
Normally Closed			24VAC-50/60Hz (NC)	1,6	8W	ADC(AC)	NC
				1,6	5,5W	AC	NC
		230V 50/60Hz (NC)	2,4	8W	ADC(AC)	NC	
			2,4	5,5W	AC	NC	
Normally Open		24VDC (NO)	1,6	10W	ADC (DC / AC)	NO	
			1,6	5,5W	DC	NO	
		24VDC (NC)	2,4	10W	ADC (DC / AC)	NO	
			2,4	5,5W	DC	NO	
	Normally Closed	24VDC (NO)	1,6	2,5W	DC-2,5	NO-2,5	
			1,6	10W	ADC (DC / AC)	NC	
24VDC (NC)		1,6	5,5W	DC	NC		
		2,4	10W	ADC (DC / AC)	NC		
Normally Closed	24VDC (NO)	2,4	5,5W	DC	NC		
		2,4	2,5W	DC-2,5	NC-2,5		

Options for 3-way industrial Gem Sol solenoids

Types	: 24VAC-50Hz (8W)
	: 24VAC-50/60Hz (2.5W)
	: 24VDC (10W, 2,5W)
	: ¾" UNF
Nozzle	: Larger nozzle diameters (4 mm)
	: Solenoids for special applications
Connection	: 1x ⅛" (int.tr.) and 2x ¼" (int.tr)

Options for G-80 solenoids

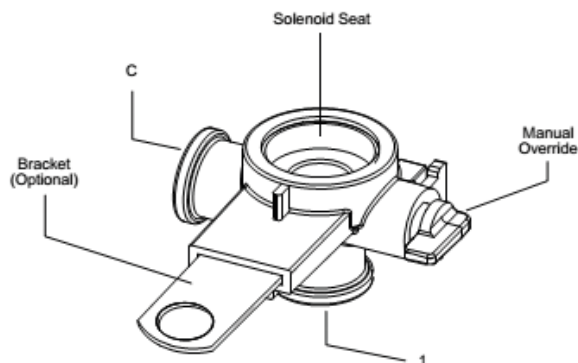
Connection	: 3x ⅛" (int.tr.)
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Nozzle diameter of "base block" vs. application

Nozzle (mm)	Application	max. pressure (bar)
0,8	95/96 Series: Air-controlled, standard closing	8
1,6	95/96 Series: Air-controlled, fast closing	8
1,6	75 Series: Air-controlled, fast closing	10
2,4	95/96 Series: Hydraulically controlled, standard closing	6
2,4	75 Series: Hydraulically controlled, fast closing	6

Base block with manual control for Dorot solenoids

Netafim offers a so-called base block (71680-000240) for diaphragm valves which can be fitted with a manual operation (manual override). The base block is intended for Dorot ¾" UNEF solenoids. The base block is made of glassfiber reinforced polyamide, rubber seals and polybutylene manual control pin. Optionally, a stainless steel bracket can be added. The internal orifice is 1.5 mm.



INSTALLATION & MAINTENANCE

- ✓ Parts with the same designation are interchangeable. For example: A 24 VAC 8W solenoid has as standard an ADC operator (but can also function with an AC operator). A 10W DC solenoid also has an ADC operator as standard, so that these solenoids can be interchanged. On the other hand, the 5.5W DC solenoid requires a DC operator.
- ✓ And therefore cannot be interchanged with the 8W 24 VAC solenoid (which requires an ADC or AC operator). DC solenoids are designed as standard for DC voltage. The DC pulse (latch) solenoids are used for DC battery control.
- ✓ Pay attention with 230 V solenoids to additional safety to avoid short-circuits and shocks. With air control, ensure that the closing speed is not too high (causes water hammer). Never let the control pressure with air control to be more than 0.5-1.0 bar above the maximum system pressure (with the valves closed).