

# DOROT Solenoids



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2W Continuous Current Operator - S80-2

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2W Latching Current Operator - S92-2

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3W Continuous Current Solenoid Valve - S80-3/3-D/3-R

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3W Latch Solenoid Valve - S92-3/S93-3

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DOROT Solenoid Valve Base

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## 2W Continuous Current Operator

The DOROT S80-2 Operator is designed for electric activation of automatic control valves in irrigation systems controlled by continuous current controllers. The S80-2 Operator offers the highest hydraulic performance, low power consumption and long-life service.

The S80-2 Operator is assembled directly onto the valve bonnet (integral solenoid assembly), or assembled on a 2-way base, allowing electric activation of various control circuits.

The S80-2 Offers low sensitivity to dirt and voltage fluctuations. It is compatible with most continuous current controllers available on the market.



## Applications

- On / Off activation of irrigation valves
- Electric activation of flow and pressure regulation systems

## Benefits

- Low sensitivity to dirt
- Exceptional hydraulic performance (up to 10 bar with 2.4mm orifice)
- Low sensitivity to voltage fluctuations
- High quality materials for maximum mechanical durability
- High reliability and low maintenance
- Compatible with most continuous current controllers available

## Technical Data

Operator type	Wire color	Operator mark	Operator type	Frequency	Current (Amp)		Catalog number
					Inrush	Holding	
2W 24 VAC	Red	S80-2 24VAC N.C	2W N.C. 24 VAC	50 Hz	0.25	0.11	T30040450550001
				60 Hz	0.22	0.095	
2W 24 VDC	Black	S80-2 24VDC N.C	2W N.C. 24 VDC		0.12	0.12	T30040450350001
2W 12 VDC	Blue	S80-2 12VDC N.C	2W N.C. 12 VDC		0.28	0.28	T30040440350001

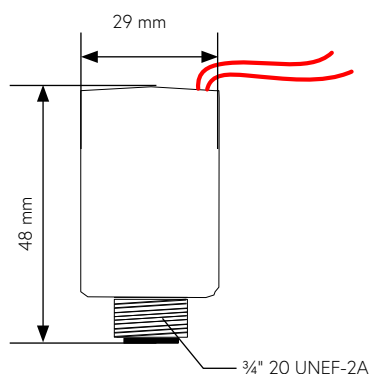
Voltage	24 VAC, 24 VDC, 12 VDC
Allowed deviation from voltage	± 10%
Connecting wires	2 wires, cross-section - 0.32 mm <sup>2</sup> length - 80 cm
Operating pressure range	0-10 bar (up to 2.4mm orifice)
Base connection	¾" 20 UNEF-2A male threaded
Manual override (optional)	knob (on the valve bonnet) or selector (turn)
Protection	IP-66
Temperature	Fluid temperature range: 5°C to 50°C Ambient temperature range: -10°C to 50°C

## Materials

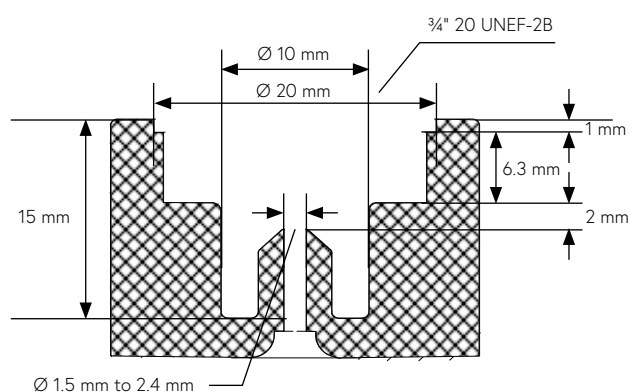
Body	Coated Steel
Seals	NBR
Internals	SST

## Dimensions

Operator



Operator Seat



## 2W Latching Current Operator

The DOROT S92-2 / S93-2 Latch Operator is a 2-way latching operator, designed for electric activation of automatic control valves on irrigation systems, which are activated by battery-operated controllers.

The S92-2 / S93-2 Latch Operator changes position when energized by short electric pulses. This feature extends battery life, as power consumption is minimized.

The S92-2 / S93-2 Latch Operator is assembled onto the valve bonnet (integral solenoid assembly), with rotating on/off override, or with a 2-way base, allowing electric activation of various control circuits.

The S92-2 / S93-2 Latch Operator features low sensitivity to dirt and is compatible with most battery powered controllers.



## Applications

- On / Off activation of irrigation valves
- Electric activation of flow and pressure regulation systems
- Actuation by battery-powered controller

## Benefits

- Low sensitivity to dirty water
- Exceptional hydraulic performance (up to 10 bar with 1.8mm orifice)
- Requires very short pulse for activation
- Requires low operating voltage
- Wide range of operating voltages
- High quality materials for maximum mechanical durability
- Compatible with most pulse-signal controllers
- Applicable with solar-charged controllers
- High reliability and low maintenance

## Technical Data

Operator type	Wires	Wire color	Operator mark	Cat. No.
2W Latch 9-30 VDC	2	Red / Black	S92-2 9-30 VDC Latch	T300404C0450001
2W Latch 9-30 VDC	3	Red / Black / White	S93-2 9-30 VDC Latch	T300404C0460001

Voltage	9- 30 VDC (requires capacitor of 4700µf)
Connecting wires	2 wires, cross-section - 0.32 mm <sup>2</sup> length - 80 cm
Operating pressure range	0-10 bar (up to 1.8mm orifice)
Assembly connection	¾" 20 UNEF-2A male threaded
Manual override (optional)	Selector (turn)

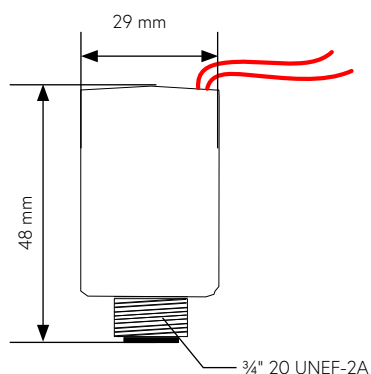
Minimal pulse width	15 ms
Maximal pulse width	100 ms
Coil resistance	5.1Ω (other resistance ratios upon request)
Protection	IP-66
Temperature	Fluid temperature range: 5°C to 50°C Ambient temperature range: -10°C to 50°C

## Materials

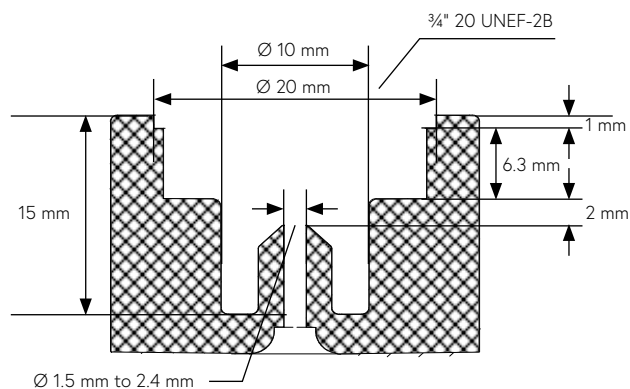
Body	Coated Steel
Seals	NBR
Internals	SST

## Dimensions

### Operator



### Operator Seat



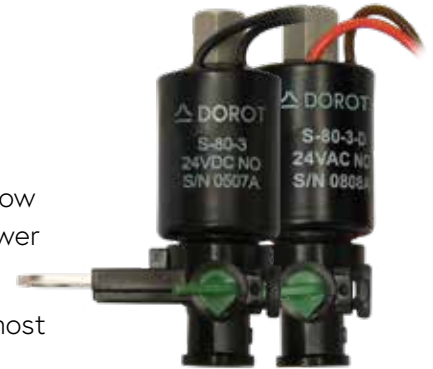
## 3W Continuous Current Solenoid Valve

DOROT S80-3, S80-3-D and S80-3-R are 3-way Solenoid Valves, designed for electric activation of various control circuits on irrigation valves, which are controlled by continuous or alternating current controllers.

The DOROT S80-3 / S80-3-D / S80-3-R 3-way Operator is assembled on a DOROT solenoid base, forming an independent control device.

The solenoid valve allows electric remote-control of On/Off, pressure and flow regulating valves, while assuring the highest hydraulic performance, low power consumption and long service life.

DOROT S80-3, S80-3-D and S80-3-R Solenoid Valves are compatible with most controller types available in the market.



## Applications

- On / Off activation of irrigation valves
- Electric remote control of hydraulic and pneumatic systems
- Electric activation of flow and pressure regulation systems

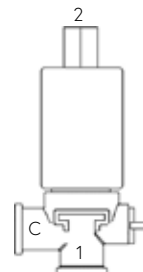
## Benefits

- Low power consumption
- Low sensitivity to dirty water
- Exceptional hydraulic performance
- Low sensitivity to voltage fluctuations
- High quality materials for maximum durability
- High reliability and low maintenance
- Compatible with most controllers
- High flow rate, causing fast valve reaction
- S80-3 offers exceptional protection from lightning related voltage spikes

## Technical Data

### Base Connections

Port	C	1	2
3-way N.C	Command	Pressure	Vent
3-way N.O	Command	Vent	Pressure



Operator type	Wire color	Operator mark	Frequency	Current (Amp)		Cat. No. Solenoid Valve (base+operator)	Cat. No. Solenoid operator
				Holding	Inrush		
3W N.O. 24 VAC	Red / Brown	S80-3-D 24VAC N.O.	50 Hz	0.115	0.115	S35510850550001	T30010450550001
			60 Hz	0.111	0.111		
3W N.C. 24 VAC	Red / Blue	S80-3-D 24VAC N.C.	50 Hz	0.17	0.17	S35520850550001	T30020450550002
			60 Hz	0.16	0.16		
3W-R-N.O. 24 VAC	Red	S80-3-R 4VAC N.O.	50 Hz	0.25	0.5	S35510850550003	T30010450550003
			60 Hz	0.18	0.42		
3W N.O. 24 VDC	Black	S80-3 24VDC N.O.		0.12	0.12	S35510850350001	T30010450350001
3W N.O. 12 VDC	Blue	S80-3 12VDC N.O.		0.28	0.28	S35510840350001	T30010440350001

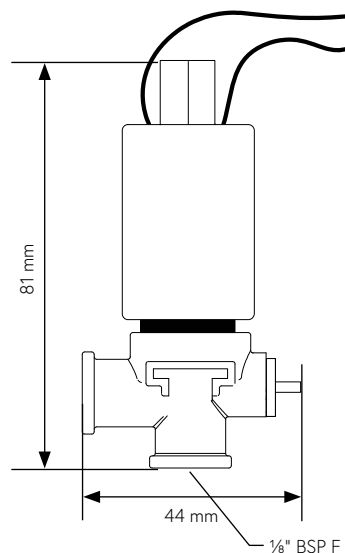
Voltage	24 VAC, 24 VDC, 12 VDC
Allowed deviation from voltage	± 10%
Connecting wires	2 wires, cross-section - 0.32 mm <sup>2</sup> length - 50 cm
Operating pressure range	0-10 bar

Assembly connection	¾" 20 UNEF
Manual override	Knob
Orifice diameter	1.5 mm
Protection	IP-66
Temperature	Fluid temperature range: 5°C to 50°C Ambient temperature range: -10°C to 50°C

## Materials

Body	Coated Steel
Seals	NBR
Internals	SST
Base	Glass Reinforced Polyamide

## Dimensions



## Manual Override Operation

Automatic operation



Manually open



## 3W Latch Solenoid Valve

DOROT S92-3 (2-wire) and S93-3 (3-wire) Latch 3-way Solenoid Valves are designed for electric activation of automatic control valves on irrigation systems, which are activated by battery-operated controllers.

DOROT S92-3 / S93-3 Latch Operator changes position when energized by short electric pulses. This feature extends battery life, as power consumption is minimized.

DOROT S92-3 / S93-3 Latch Operators are assembled on a DOROT solenoid base, forming an independent control device.

The Solenoid Valve allows electric remote-control of On/Off, pressure and flow regulating valves, while assuring the highest hydraulic performance, minimal power consumption and long service life. DOROT S92-3 / S93-3 Latch Operators feature low sensitivity to dirt and are compatible with most battery-powered controllers.



## Applications

- On / Off activation of irrigation valves
- Remote control of pressure and flow regulating valves
- Actuation by battery-powered controller

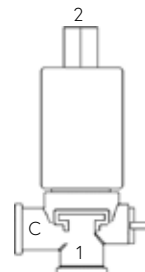
## Benefits

- Low sensitivity to dirty water
- Exceptional hydraulic performance (up to 10 bar with 1.5mm orifice)
- Requires very short pulse for activation
- Requires low operating voltage
- Wide range of operating voltages
- High quality materials for maximum mechanical durability
- Compatible with most pulse-signal controllers
- Applicable with solar-charged controllers
- High reliability and low maintenance

## Technical Data

### Base Connections

Port	C	1	2
3-way	Command	Vent	Pressure



Operator type	Wires	Wire color	Operator mark	Cat. No.
3W Latch 9-30 VDC	2	Red/ Black	S92-3 9-30 VDC Latch	S35510820450002
3W Latch 9-30 VDC	3	Red/ Black/ White	S93-3 9-30 VDC Latch	S310110C0460001

Voltage	24 VAC, 24 VDC, 12 VDC
Allowed deviation from voltage	± 10%
Connecting wires	2 wires, cross-section - 0.32 mm <sup>2</sup> length - 50 cm
Operating pressure range	0-10 bar

Assembly connection	¾" 20 UNEF
Manual override	Knob
Orifice diameter	1.5 mm
Protection	IP-66
Temperature	Fluid temperature range: 5°C to 50°C Ambient temperature range: -10°C to 50°C

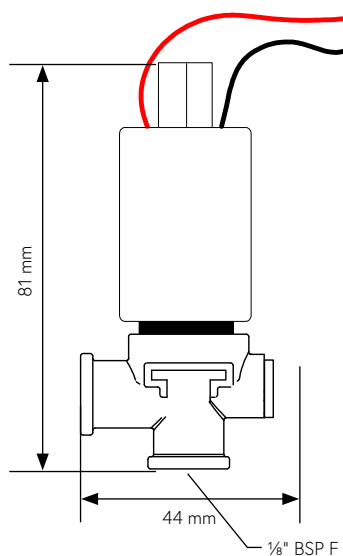
## Materials

Body	Coated Steel
Seals	NBR
Internals	SST
Base	Glass Reinforced Polyamide

## Electric Connections

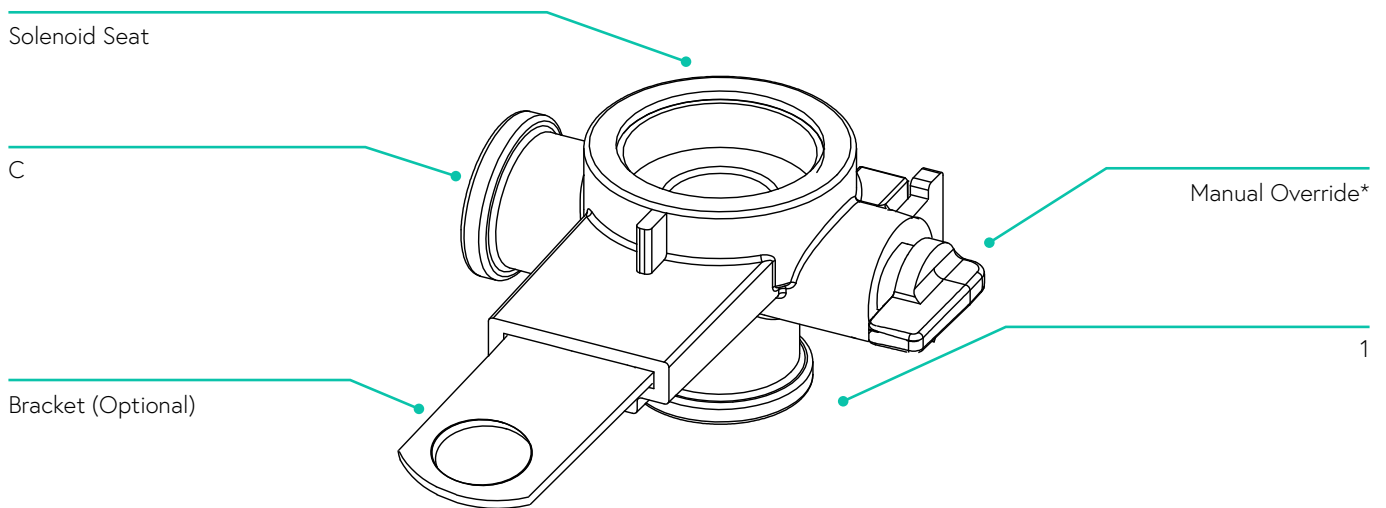
White (+)	Common
Red (-)	Latch
Black (-)	Release

## Dimensions



## DOROT Solenoid Valve Base

The DOROT Solenoid Valve base enables 2-way or 3-way solenoid valves to be added to various control circuits. The base is designed to allow maximal through flow and to withstand harsh environmental conditions. Stainless Steel bracket, for installation on the hydraulic valve or on the solenoid manifold, is supplied upon request.



\* Not available for latching solenoid valves

## Technical Data

### Materials

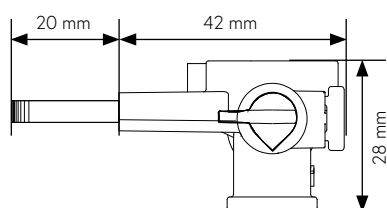
Body	Glass Reinforced Polyamide
Seals	Rubber
Override	Polybutylene
Bracket	SST

### Connections

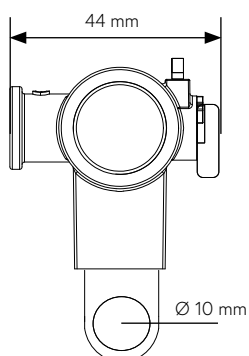
Port connections	1/8" BSP F
Operator connection	3/4" 20 UNEF
Orifice diameter	1.5 mm

## Dimensions

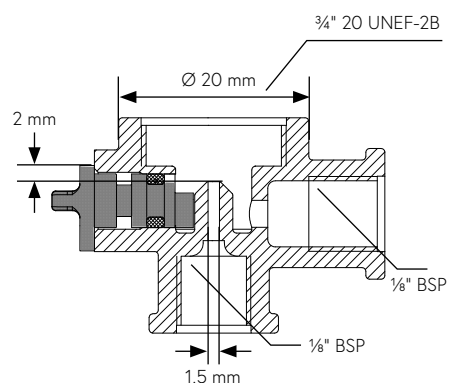
Side view



Top view

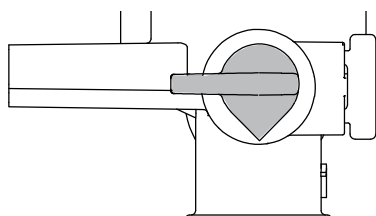


Water passages

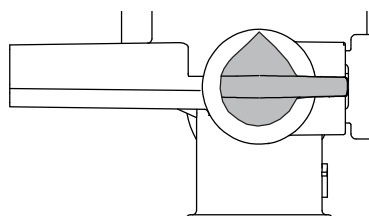


## Manual Override Operation

Automatic operation



Manually open

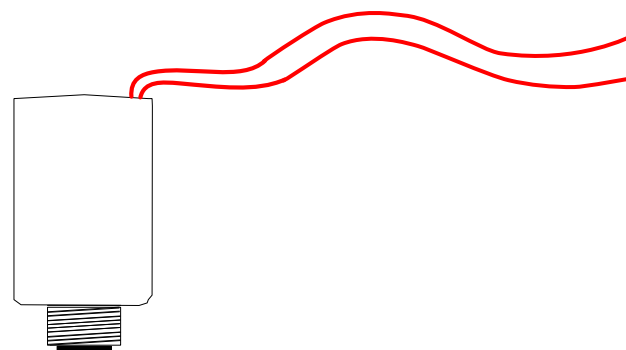


## Catalog Numbers

Base	E35510400000001
Base with bracket	E35510400000002

## Installation recommended maximum cable length

Solenoid Type	Voltage [V]	Inrush [Amp]	Cable Cross Section [mm <sup>2</sup> ]			
			0.5	1	1.5	2.5
			Maximal Cable Length [m]			
2W 24 VAC 50 Hz	24 VAC	0.25	250	500	750	1250
2W 24 VAC 60 Hz	24 VAC	0.22	250	550	850	1450
2W 24 VDC	24 VDC	0.12	250	500	750	1250
2W 12 VDC	12 VDC	0.28	50	100	175	275
3W N.O. 24 VAC 50 Hz	24 VAC	0.115	500	1000	1500	2500
3W N.O. 24 VAC 60 Hz	24 VAC	0.111	550	1100	1700	2850
3W N.C. 24 VAC 50 Hz	24 VAC	0.17	350	750	1100	1750
3W N.C. 24 VAC 60 Hz	24 VAC	0.16	400	800	1200	2000
3W-R-N.O. 24 VAC 50 Hz	24 VAC	0.5	125	250	375	600
3W-R-N.O. 24 VAC 60 Hz	24 VAC	0.42	150	300	450	750
3W N.O. 24 VDC	24 VDC	0.12	250	500	800	1350
3W N.O. 12 VDC	12 VDC	0.28	55	115	175	275





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