

## 2-way, solenoid-operated directional spool valve - pilot capacity

Capacity:  
**.25 gpm (1 L/min.)**

Functional Group:

**Products : Cartridges : Solenoid Operated : 2-Way : Spool**

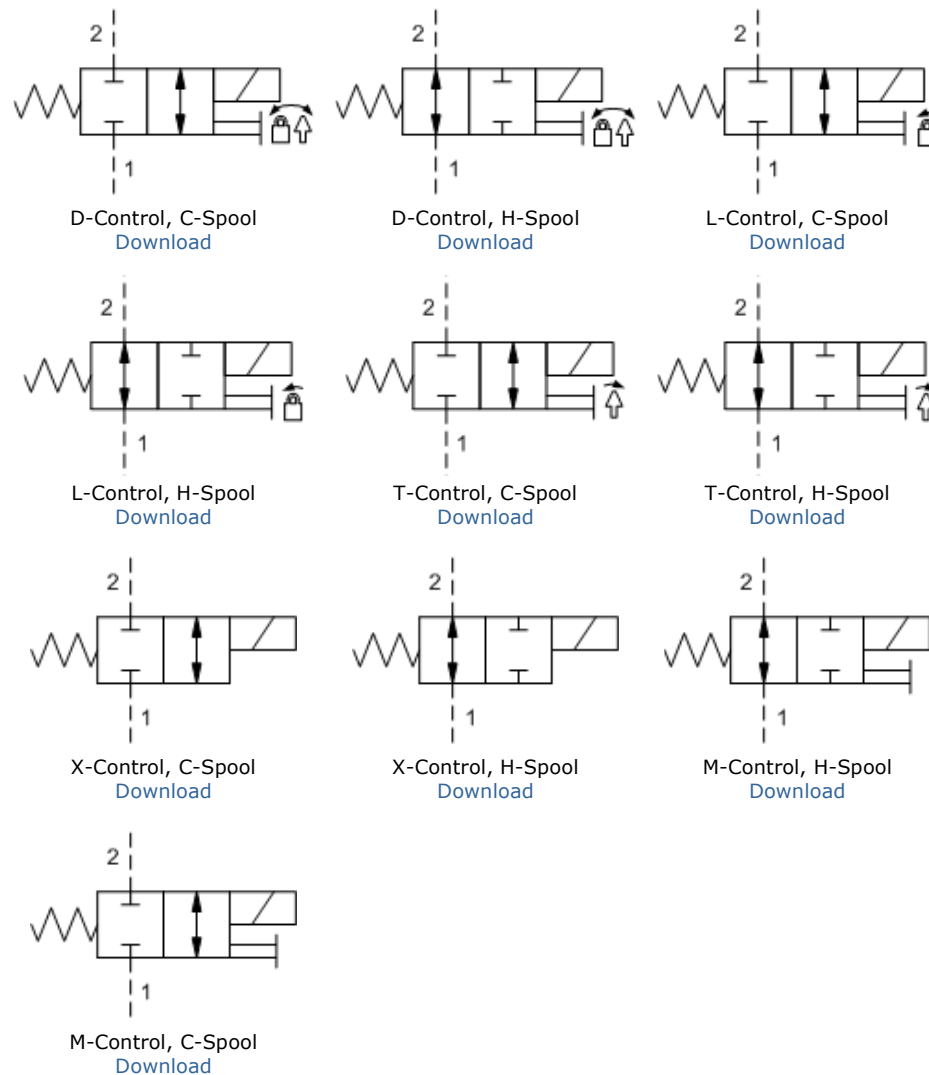
Model:

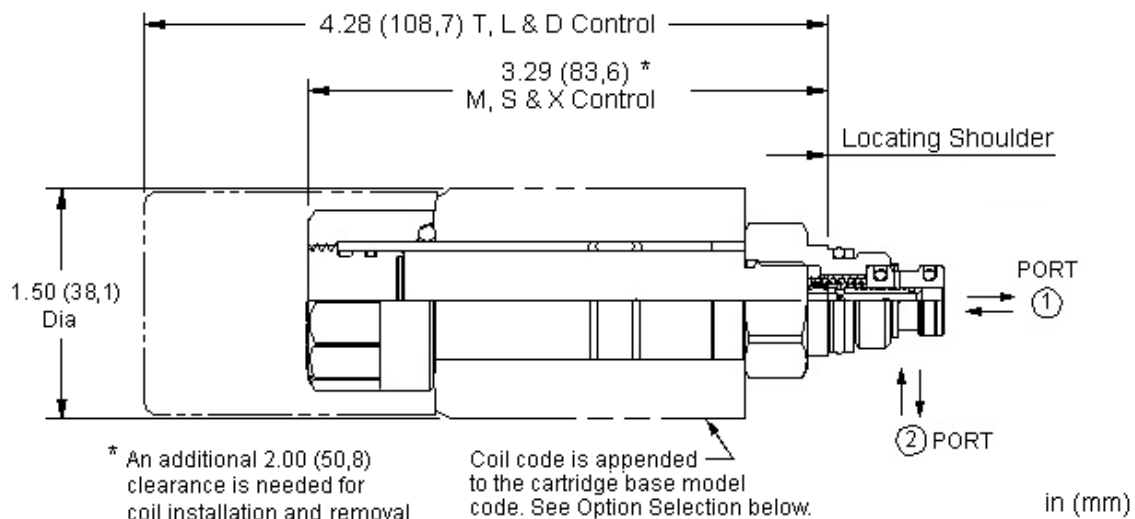
**DAAL**

### Product Description

This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full-flow valves. The valve is available in either a normally open or normally closed configuration.

This cartridge can be installed directly into a cavity in the end of many of Sun's pilot operated and ventable valves to provide integrated pilot control.



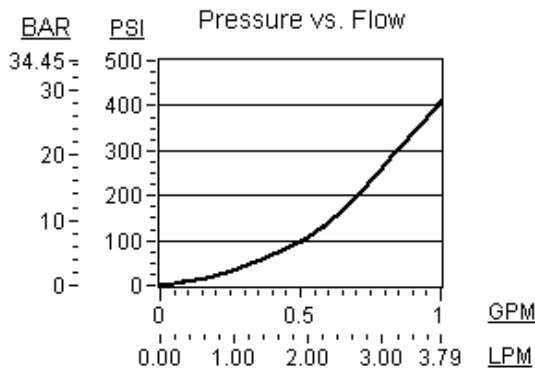


### Technical Features

- Model DAAL integrates the same coil, connector, and manual override options that are currently available on Series 1 valves. The DAAL is interchangeable with the DAAA except for the external coil dimensions and higher coil wattage.
- The solenoid tube assembly is fatigue rated for 5000 psi (350 bar) service.
- This valve is direct actuated and requires no minimum hydraulic pressure for operation.
- This cartridge has several manual override choices, including no manual override. See Option Selection below. Please note: Manual override functionality is not compatible with weatherized coils.
- Cartridge can be installed directly into a cavity in some Sun pilot operated and ventable cartridges to provide electrically operated pilot control functions. Separate pilot lines are eliminated and only one cavity needs to be machined to accommodate both the control and primary function.
- Valves exhibit extremely low leakage rates; less than 10 drops/min. @ 5000 psi (0,7 cc/min @ 350 bar).
- Note: The main stage valve should first be installed to the correct torque value followed by the T-8A pilot control section into the main stage valve to its required torque value.
- This valve utilizes a wet armature design. This means that the working fluid surrounds the armature and is exposed to the heat generated by the coil. This can be a factor if the coil is energized for long periods of time. Some fluids, notably water/glycol mixtures, break down at these temperatures over time and form varnishes that will affect the function of the cartridge.
- Coils are interchangeable with other Sun Series 1 solenoid products and can be mounted on the tube in either direction.
- Coil connector options offer ratings up to IP69K. See individual coil product pages for details. Additional weatherized coils and kits are available for more complete environmental protection.
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding due to excessive installation torque and/or cavity/cartridge machining variations.

### Technical Data

	U.S. Units	Metric Units
Cavity		T-8A
Capacity	.25 gpm	1 L/min.
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1	33 N/100 bar @ Port 1
Manual Override Stroke	.10 in.	2,5 mm
Maximum Operating Pressure	5000 psi	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi	0,7 cc/min.@350 bar
Response Time - Typical		50 ms
Series (from Cavity)		Series P
Switching Frequency		15000 cycles/hr
Solenoid Tube Diameter	.75 in.	19 mm
Valve Hex Size	7/8 in.	22,2 mm
Valve Installation Torque	20 - 25 lbf ft	27 - 33 Nm
Model Weight (with coil)	1.00 lb	0,45 kg
Seal Kits - Cartridge		Buna: 990-008-007
Seal Kits - Cartridge		Viton: 990-008-006
Seal Kits - Coil		Viton: 990-770-006
Model Weight	0.56 lb.	0.25 kg.



### DAAL-XCN-\*\*\*

**\$81.00**

Recommended List Price

Control		Spool Configuration		Seal Material		Coil	
Preferred Options		Preferred Options		Preferred Options		*** See Coil Options Below	
<b>X</b> No Manual Override	<b>+0.00</b>	<b>C</b> Normally Closed	<b>+0.00</b>	<b>N</b> Buna-N	<b>+0.00</b>		
<b>Standard Options</b>		<b>H</b> Normally Open	<b>+0.00</b>	<b>Standard Options</b>			
<b>D</b> Twist/Lock (Dual) Manual Override	<b>+29.00</b>			<b>V</b> Viton	<b>+3.50</b>		
<b>L</b> Twist/Lock (Detent) Manual Override	<b>+29.00</b>						
<b>M</b> Manual Override	<b>+6.00</b>						
<b>T</b> Twist Manual Override	<b>+29.00</b>						

**Standard Coil Options (View All)**

DIN 43650 3 pin (Hirschman)	SAE J858A	AMP Junior Timer	Twin Lead	Metri-Pack	Deutsch DT04-2P

*** no coil		<b>528</b>	SAE J858A 28 VDC	+25.30	<b>812N</b>	Metri-Pack 12 VDC no transient voltage suppression (TVS) diodes	+24.40
<b>211</b>	DIN 43650 3 pin (Hirschman) 115 VAC	+36.40	<b>536</b>	SAE J858A 36 VDC	+22.50	<b>814</b>	Metri-Pack 14 VDC +27.70
<b>212</b>	DIN 43650 3 pin (Hirschman) 12 VDC	+20.40	<b>612</b>	AMP Junior Timer 12 VDC	+19.90	<b>814N</b>	Metri-Pack 14 VDC no transient voltage suppression (TVS) diodes +27.20
<b>212N</b>	DIN 43650 3 pin (Hirschman) 12 VDC no transient voltage suppression (TVS) diodes	+19.90	<b>612N</b>	AMP Junior Timer 12 VDC no transient voltage suppression (TVS) diodes	+19.40	<b>824</b>	Metri-Pack 24 VDC +24.90
<b>214</b>	DIN 43650 3 pin (Hirschman) 14 VDC	+23.20	<b>614</b>	AMP Junior Timer 14 VDC	+22.60	<b>828</b>	Metri-Pack 28 VDC +27.70
<b>214N</b>	DIN 43650 3 pin (Hirschman) 14 VDC no transient voltage suppression (TVS) diodes	+22.70	<b>624</b>	AMP Junior Timer 24 VDC	+19.90	<b>836</b>	Metri-Pack 36 VDC +27.70
<b>223</b>	DIN 43650 3 pin (Hirschman) 230 VAC	+36.40	<b>624N</b>	AMP Junior Timer 24 VDC no transient voltage suppression (TVS) diodes	+19.40	<b>848</b>	Metri-Pack 48 VDC +27.70

<b>224</b>	DIN 43650 3 pin (Hirschman) 24 VDC	+20.40	<b>628</b>	AMP Junior Timer 28 VDC	+22.60	<b>912</b>	Deutsch DT04-2P 12 VDC	+26.20
<b>224N</b>	DIN 43650 3 pin (Hirschman) 24 VDC no transient voltage suppression (TVS) diodes	+19.90	<b>636</b>	AMP Junior Timer 36 VDC	+22.60	<b>912N</b>	Deutsch DT04-2P 12 VDC no transient voltage suppression (TVS) diodes	+25.70
<b>228</b>	DIN 43650 3 pin (Hirschman) 28 VDC	+23.20	<b>712</b>	Twin Lead 12 VDC	+22.50	<b>914</b>	Deutsch DT04-2P 14 VDC	+29.10
<b>236</b>	DIN 43650 3 pin (Hirschman) 36 VDC	+23.20	<b>712N</b>	Twin Lead 12 VDC no transient voltage suppression (TVS) diodes	+22.00	<b>914N</b>	Deutsch DT04-2P 14 VDC no transient voltage suppression (TVS) diodes	+28.60
<b>248</b>	DIN 43650 3 pin (Hirschman) 48 VDC	+23.20	<b>724</b>	Twin Lead 24 VDC	+22.50	<b>924</b>	Deutsch DT04-2P 24 VDC	+26.20
<b>297</b>	DIN 43650 3 pin (Hirschman) 24 VAC	+48.80	<b>724N</b>	Twin Lead 24 VDC no transient voltage suppression (TVS) diodes	+22.00	<b>924N</b>	Deutsch DT04-2P 24 VDC no transient voltage suppression (TVS) diodes	+25.70
<b>298</b>	DIN 43650 3 pin (Hirschman) 220 VDC	+48.80	<b>728</b>	Twin Lead 28 VDC	+25.30	<b>928</b>	Deutsch DT04-2P 28 VDC	+29.10
<b>299</b>	DIN 43650 3 pin (Hirschman) 127 VDC	+48.80	<b>736</b>	Twin Lead 36 VDC	+25.30	<b>936</b>	Deutsch DT04-2P 36 VDC	+29.10
<b>514</b>	SAE J858A 14 VDC	+25.30	<b>812</b>	Metri-Pack 12 VDC	+24.90	<b>948</b>	Deutsch DT04-2P 48 VDC	+29.10
<b>524</b>	SAE J858A 24 VDC	+22.50						

**Embedded Coil Options ([Click Here](#))**

<b>2E12V</b>	DIN 43650 3 pin (Hirschman) programmable via IR link coil/power saver 12 VDC 0-10V	+172.90	<b>4E12V</b>	Deutsch DT04-6P programmable via IR link coil/power saver 12 VDC 0-10V	+161.10	<b>4E24V</b>	Deutsch DT04-6P programmable via IR link coil/power saver 24 VDC 0-10V	+161.10
<b>2E24V</b>	DIN 43650 3 pin (Hirschman) programmable via IR link coil/power saver 24 VDC 0-10V	+172.90						

**Additional Options ([Click Here](#))**

**Additional Coils**

<b>512</b>	SAE J858A 12 VDC	+22.50	<b>71219</b>	Twin Lead to Delphi Weather-Pack Connector, 9 inch lead length, 12 VDC	+33.40	<b>72419</b>	Twin Lead to Delphi Weather-Pack Connector, 9 inch lead length 24 VDC	+33.40
<b>548</b>	SAE J858A 48 VDC	+22.50	<b>71299</b>	Twin Lead to Deutsch connector, 9 inch lead length	+34.70	<b>72499</b>	Twin Lead to Deutsch connector, 9 inch lead length	+34.70
<b>648</b>	AMP Junior Timer 48 VDC	+22.60	<b>714</b>	Twin Lead 14 VDC	+25.30	<b>748</b>	Twin Lead 48 VDC	+25.30

Stainless options not available for this model

**Related Models**

[DAALS](#)