



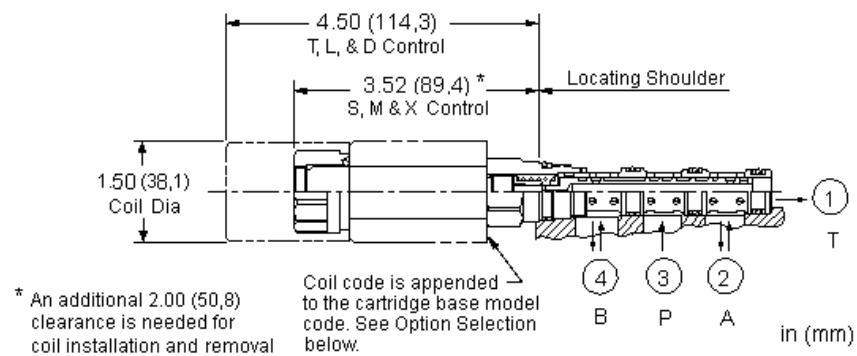
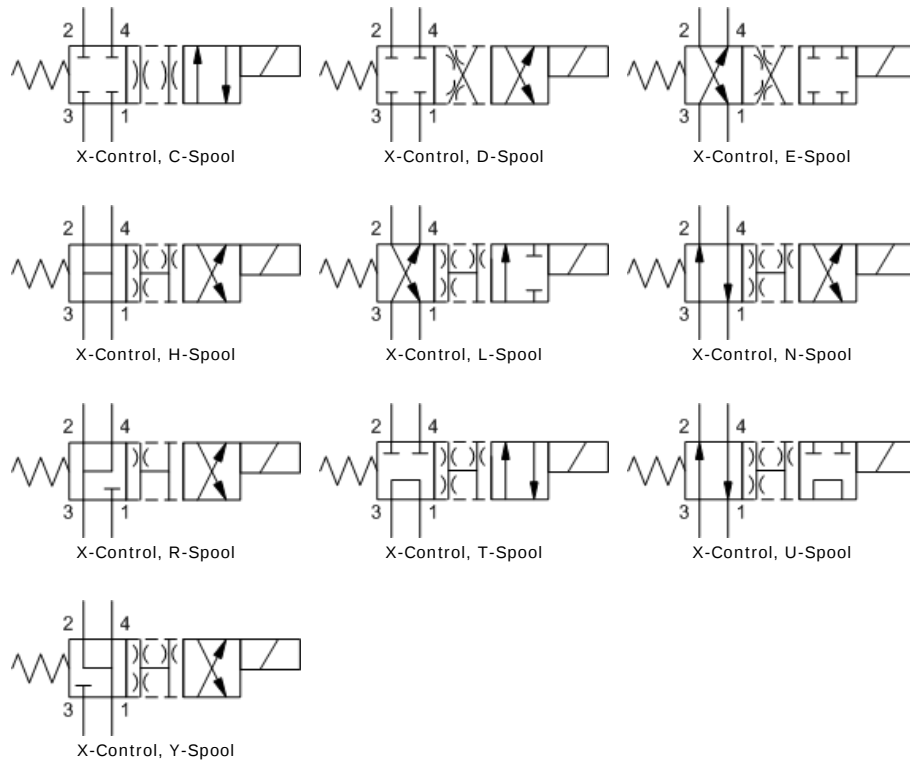
4-way, 2-position, solenoid-operated directional spool valve

Capacity:
10 gpm (40 L/min.)

Model:
DNDA

Product Description

This solenoid-operated 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve.



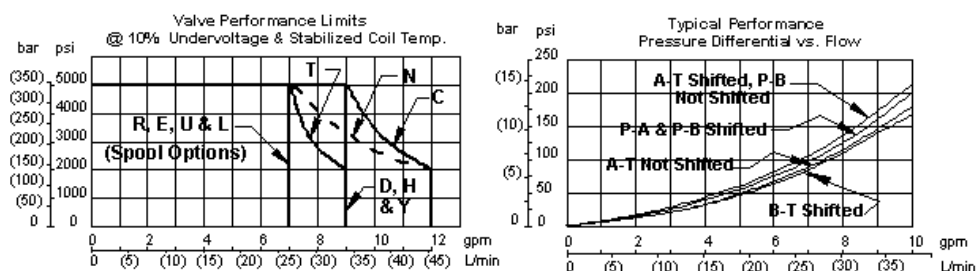
Technical Features

- 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.
- The solenoid's unique magnetic design results in a high efficiency solenoid, yielding high spool actuating force per Watt expended, leading to reliable valve shifting.
- 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.

- 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.
- A wide variety of coil termination and voltage options are available.
- 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-31A	
Capacity	10 gpm	40 L/min.
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1	3 kgs/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 in ³ /min.@3000 psi	160 cc/min.@210 bar
Response Time - Typical	50 ms	
Series (from Cavity)	Series 1	
Switching Frequency	15000 cycles/hr	
Solenoid Tube Diameter	.75 in.	19 mm
Valve Hex Size	7/8 in.	22.2 mm
Valve Installation Torque	30 - 35 lbf ft	40 - 50 Nm
Seal Kits - Cartridge	Buna: 990-431-007	
Seal Kits - Cartridge	Viton: 990-431-006	
Seal Kits - Coil	Viton: 990-770-006	
Model Weight	0.75 lb.	0.34 kg.



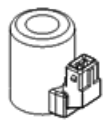
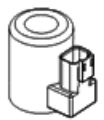
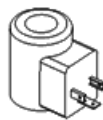
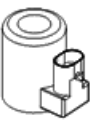
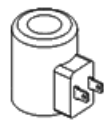
Note: Performance limits are derived with 4-way operation and symmetrical flow. For valve applications where either asymmetrical flow or 3-way operation is present, these performance limits may be reduced.

DNDA-XNN- * * *

Control	Spool Configuration	Seal Material	Coil
Preferred Options	Preferred Options	Preferred Options	*** See Coil Options Below
M Manual Override	C Closed, Shift to Through	N Buna-N	
X No Manual Override	D Closed, Shift to Cross	Standard Options	
Standard Options	E Cross, Shift to Closed	V Viton	
D Twist/Lock (Dual) Manual Override	H Open, Shift to Cross		
L Twist/Lock (Detent) Manual Override	N Through, Shift to Cross		
T Twist Manual Override	Standard Options		
	J Open, Shift to Through		
	L Cross, Shift to P to A, B and T Blocked		
	R Regen, Shift to Cross		
	S Regen, Shift to Through		

T Tandem, Shift to Through
 U Through, Shift to Tandem
 X Cross, Shift to Through
 Y Motor, Shift to Cross
 Z Motor, Shift to Through

Standard Coil Options

					
AMP Junior Timer	Deutsch DT04-2P	DIN 43650 4 pin (Hirschman)	Metri-Pack	SAE J858A	Twin Lead

*** no coil

		524	SAE J858A 24 VDC	812	Metri-Pack 12 VDC
211	DIN 43650 4 pin (Hirschman) 115 VAC	528	SAE J858A 28 VDC	814	Metri-Pack 14 VDC
212	DIN 43650 4 pin (Hirschman) 12 VDC	536	SAE J858A 36 VDC	824	Metri-Pack 24 VDC
214	DIN 43650 4 pin (Hirschman) 14 VDC	612	AMP Junior Timer 12 VDC	828	Metri-Pack 28 VDC
223	DIN 43650 4 pin (Hirschman) 230 VAC	614	AMP Junior Timer 14 VDC	836	Metri-Pack 36 VDC
224	DIN 43650 4 pin (Hirschman) 24 VDC	624	AMP Junior Timer 24 VDC	848	Metri-Pack 48 VDC
228	DIN 43650 4 pin (Hirschman) 28 VDC	628	AMP Junior Timer 28 VDC	912	Deutsch DT04-2P 12 VDC
236	DIN 43650 4 pin (Hirschman) 36 VDC	636	AMP Junior Timer 36 VDC	914	Deutsch DT04-2P 14 VDC
248	DIN 43650 4 pin (Hirschman) 48 VDC	712	Twin Lead 12 VDC	924	Deutsch DT04-2P 24 VDC
297	DIN 43650 4 pin (Hirschman) 24 VAC	724	Twin Lead 24 VDC	928	Deutsch DT04-2P 28 VDC
298	DIN 43650 4 pin (Hirschman) 220 VDC	728	Twin Lead 28 VDC	936	Deutsch DT04-2P 36 VDC
299	DIN 43650 4 pin (Hirschman) 127 VDC	736	Twin Lead 36 VDC	948	Deutsch DT04-2P 48 VDC
514	SAE J858A 14 VDC				

Embedded Coil Options

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

Additional Options

Additional Coils

512	SAE J858A 12 VDC	71219	Twin Lead to Delphi Weather-Pack Connector, 9 inch lead length, 12 VDC	72419	Twin Lead to Delphi Weather-Pack Connector, 9 inch lead length 24 VDC
548	SAE J858A 48 VDC	714	Twin Lead 14 VDC	748	Twin Lead 48 VDC
648	AMP Junior Timer 48 VDC				