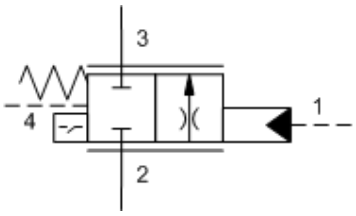
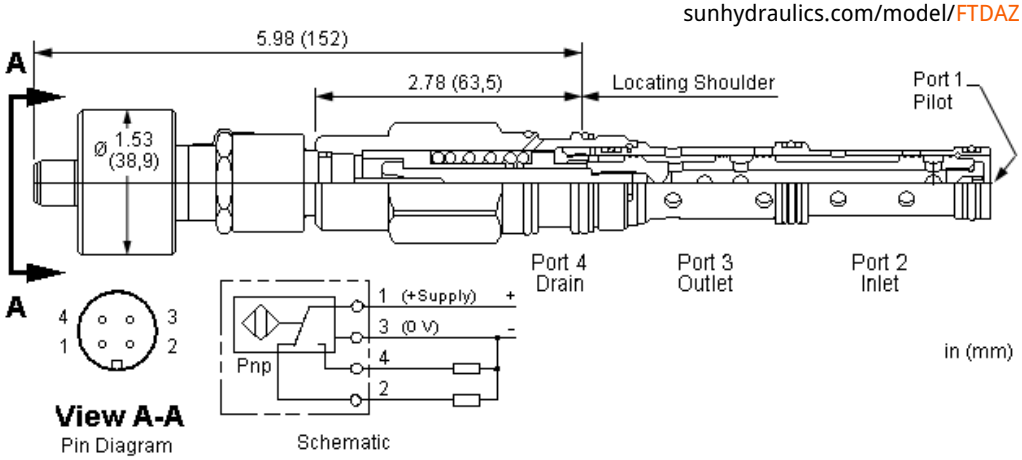
MODEL
FTDAZ

2-way, pilot-shifted, dual path, proportional throttle with position switch
SERIES 2 / CAPACITY: 30 gpm / CAVITY: T-52AD

sunhydraulics.com/model/FTDAZ





CONFIGURATION

C	Spool Configuration	Normally Closed
N	Seal Material	Buna-N

This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The metering passage is self-compensating.

This valve uses a dual-path design. Ports 2 and 3 incorporate a double-port area.

This valve incorporates a position switch to provide confirmation that the valve is closed.

TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Cavity	T-52AD
Series	2
Capacity	30 gpm
Maximum Operating Pressure	5000 psi
Pilot Pressure Required to Shift Valve	50 - 120 psi
Pilot Pressure Required for Full Shift at Rated Flow	290 - 340 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in^3/min.@1000 psi
Pilot Volume Displacement	.05 in^3
Valve Hex Size	1 1/8 in.
Valve Installation Torque	45 - 50 lbf ft
Seal kit - Cartridge	Buna: 990152007
Seal kit - Cartridge	Viton: 990152006
Model Weight	1.87 lb.

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SWITCH SPECIFICATIONS

Supply Voltage	20-30 VDC
Operating Temperature Range	-25 to 80 °C
Vibration	≥ 50g, 0-500 impulses/sec
Shock	>50 g, 1ms
Reverse Polarity Protection	Yes
Maximum Output Load	≤ 400 mA, Duty Ratio 100%
Short Circuit Protection	Yes, Load Short Unlimited
Turn On Time	≤ 25 ms
Hysteresis	35 %
Thermal Shift - 0 to 80 °C ≤ ±	.004 in.
EMC	DIN EN 61000-6-1/2/3/4
Connector	M12 X 1 (4) Pin
Connector Environment Rating	IP65

NOTES When installed in Sun's standard T-52A line mount manifold, plug unused ports and expect higher pressure drops.

CONFIGURATION OPTIONS

Model Code Example: FTDAZArray

SPOOL CONFIGURATION (C)	SEAL MATERIAL (N)
C Normally Closed	**N** Buna-N
	V Viton

TECHNICAL FEATURES

- This cartridge is supplied as a sealed, factory set unit and is not field serviceable. Any tampering will violate the product warranty.
- Position switch is CE approved.
- When torquing this cartridge into its cavity, a crow's foot wrench or similar will be required since the position switch precludes the use of a deep socket wrench.
- These valves may be pressure compensated by an external, modulating, logic element. Use LR_C-XHN for a bypass circuit or LP_C-XHN for a restrictive circuit.
- The valve provides a degree of self-compensation and may be used as a flow control. To increase the accuracy of flow control, an external, modulating, logic element can be used to maintain a constant flow over a wider range of flows and pressures. See performance curves for additional information.
- Accurate pressure compensated control requires that a constant pressure differential be maintained across the valve.
- An optional protective cover, with mounting hardware included, may be ordered separately. See kit number: 991-043.
- Ports 1 and 4 should be limited to 500 psi (35 bar).
- Pressure at port 4 directly opposes pressure at port 1.
- 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.

PERFORMANCE CURVES

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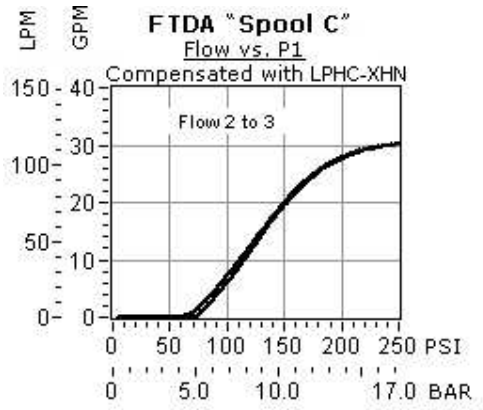
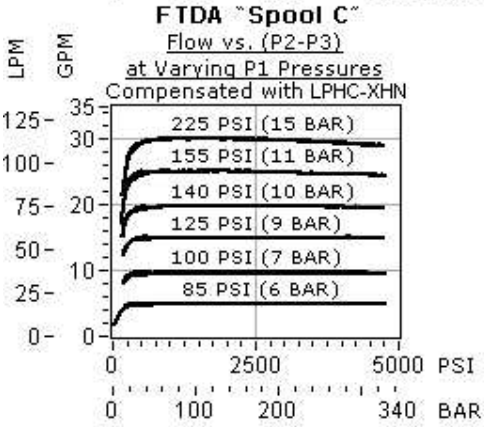
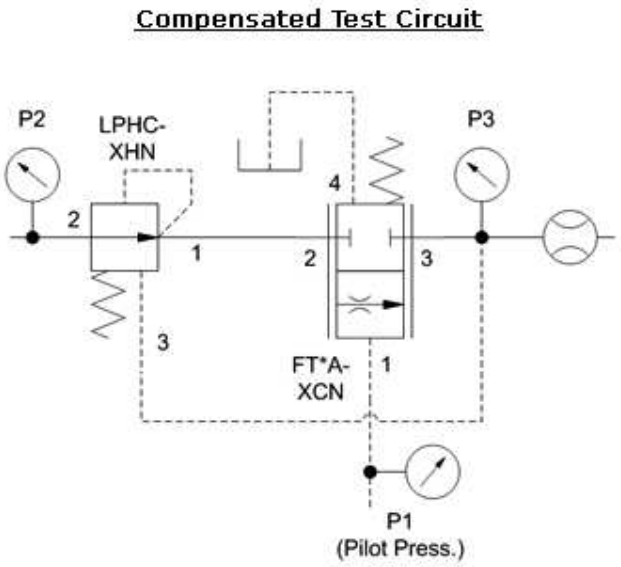
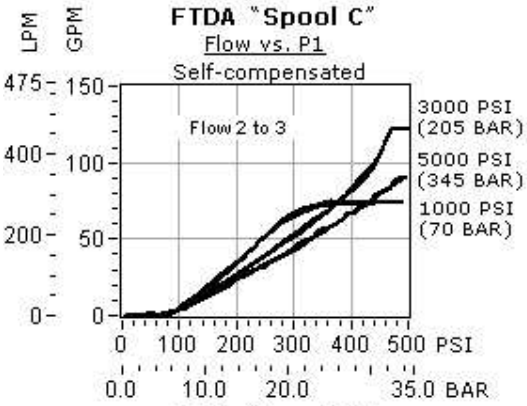
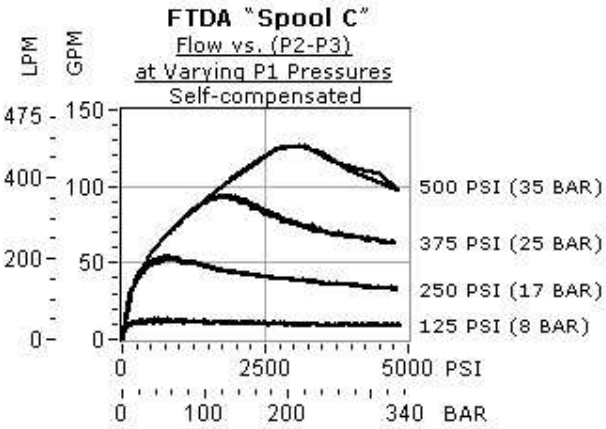
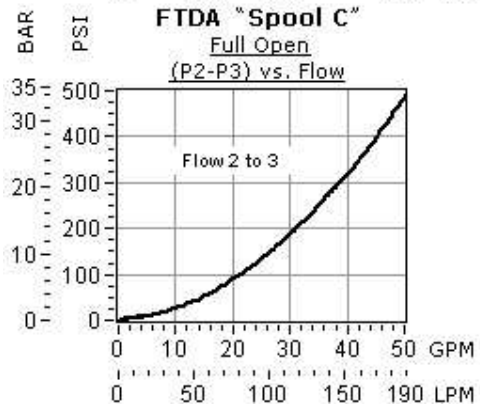

FTDA "Spool C"
Flow vs. P1
Compensated with LPHC-XHN
LPM
GPM
Flow 2 to 3
150
100
50
0
40
30
20
10
0
0 50 100 150 200 250 PSI
0 5.0 10.0 17.0 BAR


FTDA "Spool C"
Flow vs. (P2-P3)
at Varying P1 Pressures
Compensated with LPHC-XHN
LPM
GPM
225 PSI (15 BAR)
155 PSI (11 BAR)
140 PSI (10 BAR)
125 PSI (9 BAR)
100 PSI (7 BAR)
85 PSI (6 BAR)
125
100
75
50
25
0
35
30
20
10
0
0 2500 5000 PSI
0 100 200 340 BAR

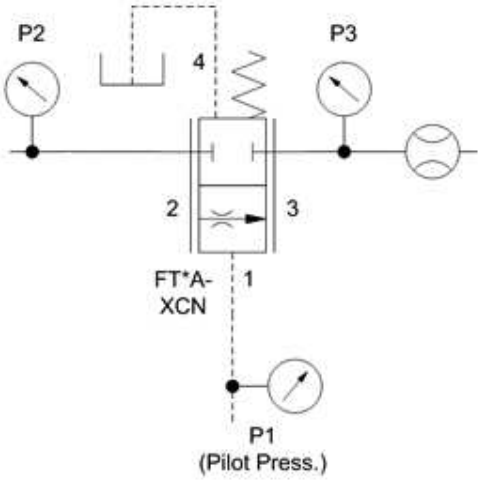

Compensated Test Circuit
P2
LPHC-
XHN
P3
4
2
1
2
3
3
FT*A-
XCN
1
P1
(Pilot Press.)







Self-Compensated Test Circuit



RELATED MODELS

- FTDA 2-way, pilot-shifted, dual path, proportional throttle

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