

# TO-SERIES MALE HYDRAULIC COUPLING DATA SHEET<sup>1</sup>

## Body Material

Nitronic 50 HS

Component Materials	
Poppet Assembly	K500/316 SS
Spring	Elgiloy
Spring Seat	316 SS
Spring Seat Retainer	316 SS/Elgiloy
Thrust Washer	Nitronic 60/50 HS
Washer Retaining Clip	Inconel X-750
Retainer Nut	Nit 60/Nit 50 HS/316 SS

Seal Material		
Poppet Seal	Delrin	(-DL)

Options		
Poppet Seal	PEEK	(-PK)
Poppet	Bleeder	(-B)
	No Poppet	(-NP)

Performance					
Part Series	Pressure Rating		Flow Coefficient (Cv)		
	Delrin Poppet Seal	PEEK Poppet Seal	Standard (200 psi)	High Flow <sup>3</sup>	No Poppet
TO-4-A (1/4")	10,000 psi	15,000 psi	.53	1.2	2.6
TO-8-A (1/2")	10,000 psi	15,000 psi	1.9 <sup>2</sup>	3.2	6.7
TO-16-A (1")	10,000 psi	10,000 psi	5.9	9.2	16.4

- Notes:
1. Coupling Drawings or Part-Specific Data Sheets take precedence.
  2. Cv = 1.2 when equipped with 800 psi cracking-pressure poppet spring.
  3. 200 psi cracking-pressure only. Increased length compared to standard-Cv coupling: TO-4: 1.33" TO-8: 0.63" TO-16: 0.78"



Subsea Technologies

# TO-SERIES FEMALE HYDRAULIC COUPLING DATA SHEET<sup>1</sup>

## Body Material

Nitronic 50 HS

Component Materials		Seal Materials	
Seal Retainer	Nitronic 60/ToughMet 3 AT 11	Crown Seal	Fluorotrel 1507
Seal Retainer Nut	Nitronic 60/ToughMet 3 AT 11	O-rings	Nitrile 90D (-N552)
Poppet Assembly	K500/316 SS	Metal Seal	Inconel 718 –Gold Plated
Spring	Elgiloy/Inconel X-750	Poppet Seal	Delrin
Spring Seat	316 SS		
Spring Seat Retainer	316 SS/Elgiloy		
Thrust Washer	Nitronic 60/50 HS		
Washer Retaining Clip	Inconel X-750		
Retainer Nut	Nit 60/Nit 50 HS/316 SS		

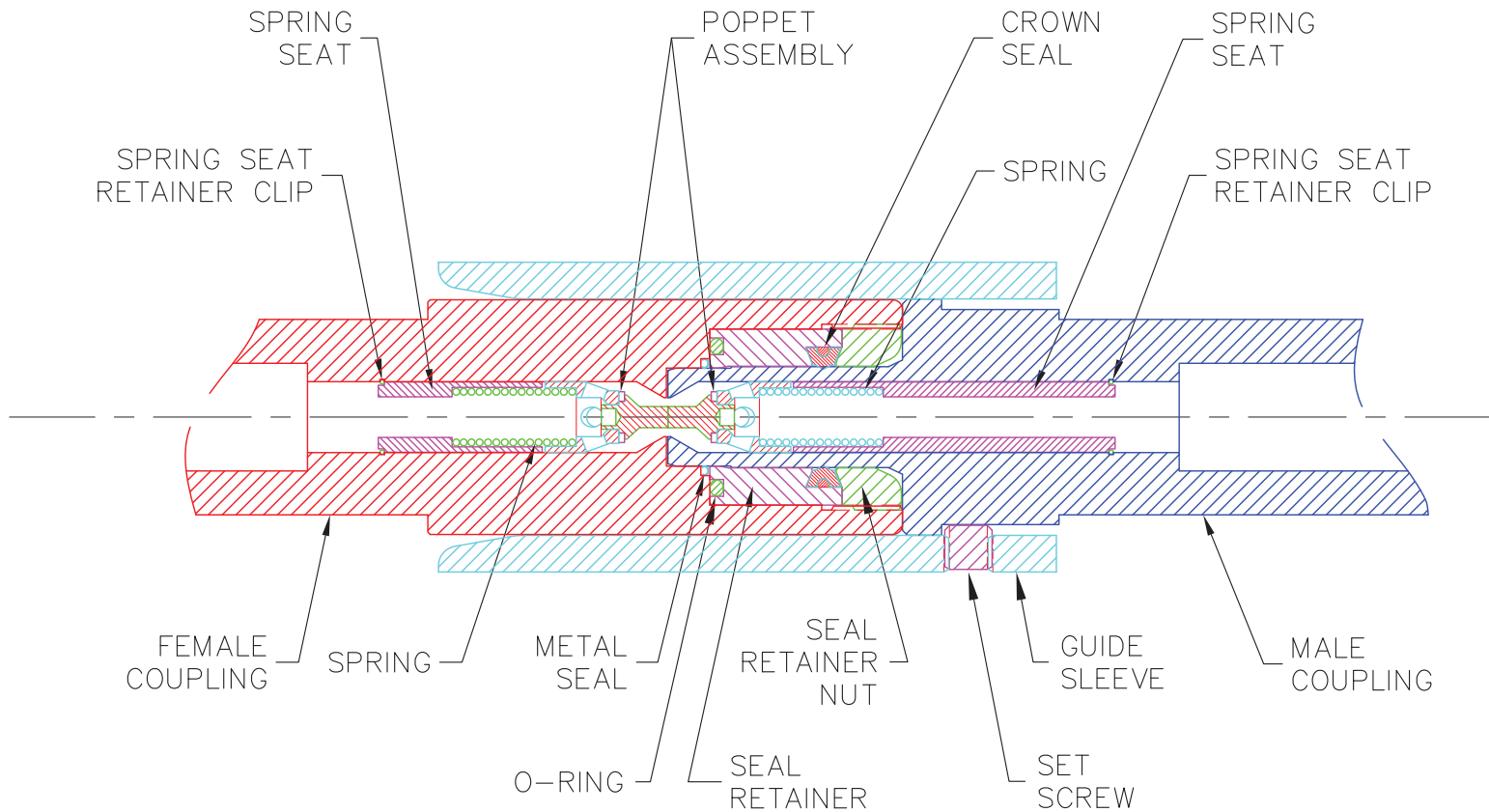
## Options

Poppet Seal	PEEK	(-PK)
Crown Seal	PEEK	(-PK)
	Dual PEEK	(-PK2)
	Dual PEEK with Bore Liner	(-PK2BL)
	Glass Filled Teflon w/Nickel	(-GTFEN)
O-rings	Viton	(-V)
	Chemraz	(-C510)
	HNBR	(-2269)
Poppet	Bleeder	(-B)
	No Poppet	(-NP)

## Performance

Part Series	Pressure Rating		Max Working Depth		Flow Coefficient (Cv)		
	Delrin Poppet Seal	PEEK Poppet Seal	Crown Seal Materials		Standard (200 psi)	High Flow <sup>3</sup>	No Poppet
TO-4-B (1/4")	10,000 psi	15,000 psi	Fluorotrel	7900 ft (2410 m)	.53	1.2	2.6
			GTFEN	6800 ft (2070 m)			
			PEEK	18,300ft (5580 m)			
TO-8-B (1/2")	10,000 psi	15,000 psi	Fluorotrel	7900 ft (2410 m)	1.9 <sup>2</sup>	3.2	6.7
			GTFEN	7900 ft (2410 m)			
			PEEK	18,300ft (5580 m)			
TO-16-B (1")	10,000 psi	10,000 psi	Fluorotrel	5600 ft (1710 m)	5.9	9.2	16.4
			PEEK	15,900ft (4850 m)			

- Notes:
1. Coupling Drawings or Part-Specific Data Sheets take precedence.
  2. Cv = 1.2 when equipped with 800 psi cracking-pressure poppet spring
  3. 200 psi cracking-pressure only. Increased length compared to standard-C<sub>v</sub> coupling: TO-4: 1.33" TO-8: 0.63" TO-16: 0.78"



NOTE:

1. DRAWING SHOWS GENERIC REPRESENTATION OF MALE AND FEMALE COUPLINGS

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TOLERANCES ARE: 1 PLACE ± .1 2 PLACE ± .01 3 PLACE ± .003 ANGULAR ± 0° 30'		DRAWN BY: JSK	DATE: 24 JAN 13
BREAK ALL CORNERS .005 TOOL RADIUS .015 DEFAULT SURFACE FINISH 6.3 CONCENTRICITY .003		APPROVED BY:	DATE:
DO NOT SCALE DRAWING		MATERIAL:	
THIRD ANGLE PROJECTION		RFQ / ECR NUMBER:	DRAWING NUMBER: TO-SERIES ASSY
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TO MALE/FEMALE