

# Roxar 2" Hydraulic Access Fitting System

## Pressure ratings up to 6,000 psi/420 bar or 10,000 psi/690 bar



### Safer and More Efficient Operations

The Roxar 2" Hydraulic Access and Retrieval system is a complete system for installing and retrieving probes and coupons from high pressure piping, pipelines and vessels under full operational pressure.

The system allows for live retrieval tool operations for pressures up to 10,000 psi (690 bar). Maximum operating temperature is 204 °C (400 °F).

Compared to traditional mechanical access systems, Roxar's 2" Hydraulic System has several advantages:

- Small size, low weight retrieval tool
- Less probability for galling/seized plugs (no threaded section between plug and fitting)
- Enhanced safety since the retrieval tool does not contain external moving parts

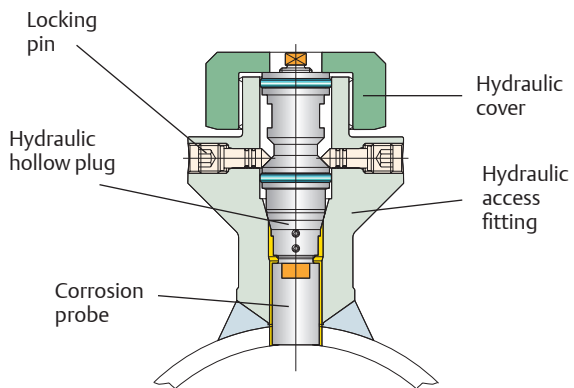
The 2" Hydraulic System was invented by Roxar, and we have more than 25 years of manufacturing and field experience with the product.

Roxar's 2" Hydraulic Access and Retrieval System comprises the following components:

- High pressure hydraulic access fitting
- Hollow and solid hydraulic plugs
- Heavy duty protective covers for hydraulic system (including pressure proof alternatives)
- Hydraulic Adaptors for converting mechanical access fittings to hydraulic system
- Hydraulic retrieval tool (see separate brochure and data sheet)

Roxar 2" Hydraulic Access System is also available for injection and sampling applications (Tee type fittings - see applicable data sheet).

## Hydraulic Access Fittings



*Flareweld hydraulic access fitting - general assembly*

The Hydraulic Access Fitting has an ACME threaded outlet to mate with the service valve of the hydraulic retrieval tool system. The Hydraulic Access Fitting has no internal threads, thereby eliminating the danger of a seized plug. Four locking pins hold the internal plug in position for the 6,000 psi/420 bar hydraulic fitting, while six locking pins hold the plug in position for the 10,000 psi/690 bar hydraulic fitting. A heavy duty cover holds the plug in position during permanent operation. The locking pins hold the plug in position when cover is removed, until the plug is controlled by the pressure in the hydraulic retrieval tool.



*Flareweld hydraulic access fitting*

## Hydraulic Access Fitting Adaptors



*Hydraulic Access Fitting Adaptor*

Hydraulic Access Fitting Adaptors are available for conversion of mechanical access fittings to hydraulic system. Observe that this conversion can be done on pressurized pipes. Please contact Emerson/Roxar for more details.



*Flanged Hydraulic Access Fitting*

The Hydraulic Access Fitting is available in flareweld and flanged versions as standard. Other versions (e.g. HUB fittings) are available upon request. Hydraulic Access Fittings are manufactured in ASTM A105, ASTM A350 GR. LF2 and Duplex steel as standard materials (other materials available on request). Hydraulic Access Fittings meet NACE MR0175 (sour service) requirements. Norsok specification upon request.

## Hydraulic Hollow and Solid Plugs



*Hydraulic solid and hollow plugs*

The hollow or solid plug provides the pressure seal in the access fitting, and is the carrier for the corrosion monitoring device (probe or coupon). The primary packing is made from PTFE (15% glass filled). (Metal seals are available for high temperature service.)

The Hydraulic Hollow Plug is used for electric probes like Electric Resistance (ER) and Linear Polarization Resistance (LPR) probes.

The Hydraulic Solid Plug is used for passive monitoring devices like weight loss coupons, bio coupons and injection/sampling equipment.

Please observe that a special design hollow/solid plug is used when a hydraulic access fitting adaptor is required. Also observe that special design reinforced plugs are available for high velocity applications, based on results from wake frequency calculations.

## Hydraulic Covers



*Hydraulic covers*

Hydraulic covers have two main functions, to protect the external threads used for service valve connection, and to hold the hollow/solid plug in position in the access fitting during the permanent installation.

For weight loss coupons and corrosion probes, hydraulic access fitting covers are available also as pressure retaining covers, with pressure rating up to 690bar/10,000 psi. For coupons, the pressure retaining cover contains a pressure gauge and bleed valve. For corrosion probes, the pressure retaining cover also contains a pressure retaining probe connector adaptor.

## Model Code Selector - Hydraulic Access Fittings

Model	Product Description		
TAF	High Pressure Access Fitting		
Code	Design Type		
H	Hydraulic		
Code	Pressure Rating		
1	Max 6 000 psi Design Pressure		
2 <sup>1</sup>	Max 10 000 psi Design Pressure		
Code	Process Connections		
00	Flareweld		
20	Flanged 150 lbs RF		
21	Flanged 300 lbs RF		
22	Flanged 400/600 lbs RF		
23	Flanged 900/1500 lbs RF		
24	Flanged 2500 lbs RF		
30	Flanged 150 lbs RTJ		
31	Flanged 300 lbs RTJ		
32	Flanged 400/600 lbs RTJ		
33	Flanged 900/1500 lbs RTJ		
34	Flanged 2500 lbs RTJ		
99 <sup>10</sup>	Other Connection		
Code	Material		
0A6A <sup>1</sup>	Carbon Steel ASTM A105, bar	EN 10204 3.1 NACE MR0175	
0B6A <sup>1</sup>	Carbon Steel ASTM A350 Gr. LF2 Cl. 1, bar	EN 10204 3.1 NACE MR0175	
2D6A <sup>1</sup>	Duplex A 276 / A 479 UNS S31803, bar	EN 10204 3.1 NACE MR0175	
0A3A <sup>2</sup>	Carbon Steel ASTM A105, forging	EN 10204 3.1 NACE MR0175	
0B3A <sup>2</sup>	Carbon Steel ASTM A350 Gr. LF2 Cl. 1, forging	EN 10204 3.1 NACE MR0175	
2D3A <sup>2</sup>	Duplex A 182 F51, forging	EN 10204 3.1 NACE MR0175	
0A6C <sup>1</sup>	Carbon Steel ASTM A105, bar	EN 10204 3.1 NACE MR0175	NORSOK M630 MDS C01
0B6C <sup>1</sup>	Carbon Steel ASTM A350 Gr. LF2 Cl. 1, bar	EN 10204 3.1 NACE MR0175	NORSOK M630 MDS C11
2D6C <sup>1</sup>	Duplex A 276 / A 479 UNS S31803, bar	EN 10204 3.1 NACE MR0175	NORSOK M630 MDS D47
0A3C <sup>2</sup>	Carbon Steel ASTM A105, forging	EN 10204 3.1 NACE MR0175	NORSOK M630 MDS C01
0B3C <sup>2</sup>	Carbon Steel ASTM A350 Gr. LF2 Cl. 1, forging	EN 10204 3.1 NACE MR0175	NORSOK M630 MDS C11
2D3C <sup>2</sup>	Duplex A 182 F51, forging	EN 10204 3.1 NACE MR0175	NORSOK M630 MDS D44

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9X9X <sup>10</sup>	Project Specific Material
<b>Code</b>	<b>Operating mode and conditions</b>
	Pressure Rating Code 1 (Max 6 000 psi Design Pressure)
01	Standard Viton O-rings, ASTM A193 B7 Locking pins
02	Rapid Gas Decompression FR 25/90 O-rings, ASTM A193 B7 Locking pins
03	Rapid Gas Decompression and/or 100 % Methanol Elast-O-Lion 101 O-rings, ASTM A193 B7 Locking pins
<b>Code</b>	<b>Product specific options</b>
C0	No Coating
C1 <sup>2,6</sup>	Roxar Standard Coating for CS with operating temperature below 120 °C
C2 <sup>2,6</sup>	Roxar Standard Coating for CS with operating temperature above 120 °C
C6 <sup>2,7</sup>	Roxar Standard Coating for SS
CX <sup>10</sup>	Project Specific Coating
<b>Code</b>	<b>Tag Plates</b>
ZZ	No Tag Plates
TG	Standard Tag plates for fittings
XX <sup>10</sup>	Project Specific Tag Plates
<b>Code</b>	<b>Factory Options</b>
Z	Standard product
X	ETO product
<b>Code</b>	<b>Certificate, Tests, Calibrations and Services (Not Required, all are optional)</b>
	Dye Penetrant Examination (select any from this group)
D1	Dye Penetrant Test
	Positive Material Testing (select only one from this group)
PM <sup>8</sup>	Positive Material Identification
	Pressure Testing (select any from this group)
HT <sup>5,2,9</sup>	Pressure test for Flanged Fittings
	Other testing
TX <sup>10</sup>	Project specific testing

<sup>1</sup> Available only with Process Connections option 00, Flareweld

<sup>2</sup> Not available with Process Connections option 00, Flareweld

<sup>6</sup> Not available with Material options 0A6A, 0B6A, 2D6A, 2D3A, 0A6C, 0B6C, 2D6C, 2D3C

<sup>7</sup> Not available with Material options 0A6A, 0B6A, 2D6A, 0A3A, 0B3A, 0A6C, 0B6C, 2D6C, 0A3C, 0B3C

<sup>8</sup> Not available with Material options 0A6A, 0B6A, 0A3A, 0B3A, 0A6C, 0B6C, 0A3C, 0B3C

<sup>9</sup> Not available with Material options 0A6A, 0B6A, 2D6A, 0A6C, 0B6C, 2D6C

<sup>10</sup> Not available with Factory Option Z

## Model Code Selector - Solid and Hollow Plugs

Model	Product Description		
TPLUG	Plug		
Code	Design Type		
H	Hydraulic		
Code	Plug type		
00	Solid Plug		
02	Hollow Plug		
03	Reinforced Plug		
Code	Material		
2C6A	Stainless Steel A 479 Gr. 316L, bar	EN 10204 3.1 NACE MR0175	
2D6A	Duplex A 276 / A 479 UNS S31803, bar	EN 10204 3.1 NACE MR0175	
2C6C	Stainless Steel A 479 Gr. 316L, bar	EN 10204 3.1 NACE MR0175	NORSOK M630 MDS S01
2D6C	Duplex A 276 / A 479 UNS S31803, bar	EN 10204 3.1 NACE MR0175	NORSOK M630 MDS D47
9X9X <sup>3</sup>	Project Specific Material		
Code	Operating mode and conditions		
00	O-ring Not Applicable		PTFE Primary Packing
Code	Product specific options		
C0	No coating		
Code	Factory Options		
Z	Standard product		
X	ETO product		
Code	Certificate, Tests, Calibrations and Services (Not Required, all are optional)		
	Dye Penetrant Examination (select any from this group)		
D1	Dye Penetrant Test		
	Positive Material Testing (select only one from this group)		
PM	Positive Material Identification		
	Other testing		
TX <sup>3</sup>	Project specific testing		

<sup>3</sup>Not available with Factory Option Z

## Model Code Selector - Hydraulic Covers

Model	Product Description		
TCOV	Cover		
Code	Design Type		
H	Hydraulic		
Code	Pressure Rating		
1	Max 6 000 psi Design Pressure		
Code	Cover Design		
00	Heavy Duty without Hole		
01	Heavy Duty with Hole		
02	Pressure Proof for Solid Plug		
03	Pressure Proof for Hollow Plug		
Code	Material		
0A6A	Carbon Steel ASTM A105, bar	EN 10204 3.1 NACE MR0175	
0B6A	Carbon Steel ASTM A350 Gr. LF2 Cl. 1, bar	EN 10204 3.1 NACE MR0175	
2D6A	Duplex A 276 / A 479 UNS S31803, bar	EN 10204 3.1 NACE MR0175	
0A6C	Carbon Steel ASTM A105, bar	EN 10204 3.1 NACE MR0175	NORSOK M630 MDS C01
0B6C	Carbon Steel ASTM A350 Gr. LF2 Cl. 1, bar	EN 10204 3.1 NACE MR0175	NORSOK M630 MDS C11
2D6C	Duplex A 276 / A 479 UNS S31803, bar	EN 10204 3.1 NACE MR0175	NORSOK M630 MDS D47
9X9X <sup>10</sup>	Project Specific Material		
Code	Operating mode and conditions		
00 <sup>2</sup>	Not Applicable		
01 <sup>3</sup>	Standard	Viton O-ring	
02 <sup>3</sup>	Rapid Gas Decompression	FR 25/90 O-ring	
03 <sup>3</sup>	Rapid Gas Decompression and/or 100 % Methanol	Elast-O-Lion 101 O-ring	
Code	Product specific options		
C0	No Coating		
C1 <sup>5</sup>	Roxar Standard Coating for CS with operating temperature below 120 °C		
C2 <sup>5</sup>	Roxar Standard Coating for CS with operating temperature above 120 °C		
C6 <sup>6</sup>	Roxar Standard Coating for SS		
CX <sup>10</sup>	Project Specific Coating		
Code	Probe Adapter		
Z	No Probe Adapter		
A4	Standard Probe Adapter for Pressure Proof Cover		

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X <sup>10</sup>	Other Probe Adapter	
<b>Code</b>	<b>Factory Options</b>	
Z	Standard product	
X	ETO product	
<b>Code</b>	<b>Certificate, Tests, Calibrations and Services (Not Required, all are optional)</b>	
	<u>Dye Penetrant Examination (select any from this group)</u>	
D1	Dye Penetrant Test	
	<u>Positive Material Testing (select only one from this group)</u>	
PM <sup>6</sup>	Positive Material Identification	
	<u>Other testing</u>	
TX <sup>10</sup>	Project specific testing	
<p><sup>2</sup> Not available with Cover Design options 02, 03  <sup>3</sup> Not available with Cover Design options 00, 01  <sup>4</sup> Not available with Cover Design options 00, 01, 02  <sup>5</sup> Not available with Material options 2D6A, 2D6C  <sup>6</sup> Not available with Material options 0A6A, 0B6A, 0A6C, 0B6C  <sup>10</sup> Not available with Factory Option Z</p>		

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