

# NORTHSTAR

## Hydraulic Service

### HYDRAULIC & PNEUMATIC CYLINDER SERVICE

- Sale of new cylinder and actuator units.
- Repair of existing units. Repair services include:
  - Disassembly & inspection.
  - Machining of new rods and pistons.
  - Machining of glands, rod bearings, wear rings, and end caps.
  - Fabrication, machining and honing cylinders.
  - Machining of spherical bearings.
  - Weld repair of heads and of clevises.
  - Chrome or Nickel plating and grinding.
  - Pressure testing of complete assemblies.
- Manufacturing of new cylinders as per specifications.



### RAPID HOSE SERVICE

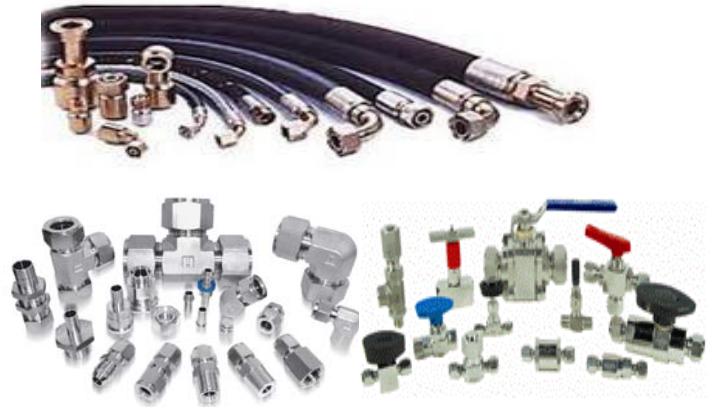
Northstar can make hydraulic hoses per your specifications or sample using varieties of carbon or stainless steel fittings.

With its Rapid Mobile Service, Northstar is able to make hydraulic hoses at your facility or work site to minimize down time and maximize your production.

We carry metric, DIN and JIS fittings.

### INSTRUMENTATION FITTINGS & VALVES

Northstar sells and distributes Superlock Instrumentation valve and fittings. Superlock products are engineered to the highest quality standards and offer superior performance. Tube fittings and adapters are available in NPT, BSP, metric, JIS and DIN standards.



# NORTHSTAR

## Instrumentation Tube Fittings

### TUBE FITTINGS

<b>SU</b> Union	<b>SRU</b> Reducing Union	<b>SBRU</b> Bulkhead Reducing Union	<b>SBHU</b> Bulkhead Union	<b>SMC</b> Male Connector	<b>SOMC</b> Male Connector for Bonded Washer Seal	<b>SFC</b> Female Connector
<b>SGC</b> Gauge Connector	<b>SBMC</b> Bulkhead Male Connector	<b>SBFC</b> Bulkhead Female Connector	<b>SUE</b> Union Elbow	<b>SME</b> 90° Male Elbow	<b>SHME</b> 45° Male Elbow	<b>SPHME</b> 45° Positionable Male Elbow
<b>SPME</b> 90° Positionable Male Elbow	<b>SFE</b> 90° Female Elbow	<b>SUT</b> Union Tee	<b>SRUT</b> Reducing Union Tee	<b>SBMT</b> Male Branch Tee	<b>SPBMT</b> Positionable Male Branch Tee	<b>SMRT</b> Male Run Tee
<b>SPBMT</b> Positionable Male Run Tee	<b>SBFT</b> Female Branch Tee	<b>SBRT</b> Female Run Tee	<b>SUC</b> Union Cross	<b>SR</b> Reducer	<b>SBR</b> Bkhd. Reducer	<b>SMA</b> Male Adapter
<b>SFA</b> Female Adapter	<b>SPC</b> Part Connector	<b>SRPC</b> Reducing Part Connector	<b>SFTC</b> Flange Lapped Tube Connector	<b>SAF</b> AN Flare	<b>SAU</b> AN Union	<b>SAA</b> AN Adapter
<b>SOSC</b> O-Seal Straight Thread Connector	<b>SOPC</b> O-Seal Pipe Thread Connector	<b>SBMC</b> 90°/MS Male Connector	<b>SPWC</b> Male Pipe Weld Connector	<b>SMPWE</b> Male Pipe Weld Elbow	<b>SSWC</b> Socket Weld Connector	<b>SSEW</b> Socket Weld Elbow
<b>SP</b> Plug	<b>SC</b> Cap	<b>SN</b> Nut	<b>SBF</b> Print Female	<b>SBF</b> Back Female	<b>SFB</b> Female Set (1/2pc.)	<b>SI</b> Insert
<b>SVP</b> Vent Protector						

### TUBE FITTINGS & ADAPTERS

<b>0402</b> Pipe Bore x MJ	<b>0403</b> Tube Bore x MJ	<b>1404</b> MP x FPS	<b>1405</b> FP x FPS	<b>1501</b> MP x FPS 90°	<b>1502</b> FP x FPS 90°	<b>1503</b> MJ x FPS 45°
<b>1700</b> MJ x C.61 Flange	<b>1703</b> MJ x C.61 Flange 45°	<b>1704</b> MJ x C.61 Flange 90°	<b>1800</b> MJ x C.62 Flange	<b>1803</b> MJ x C.62 Flange 45°	<b>1804</b> MJ x C.62 Flange 90°	<b>2403</b> MJ Union
<b>2403-LH</b> MJ Union (opposite)	<b>2404</b> MJ x MP	<b>2405</b> MJ x FP	<b>2406</b> FJ x MJ Exp./Red.	<b>2408</b> JIC Plug	<b>2500</b> MJ x MJ 90°	<b>2501</b> MJ x MP 90°
<b>2501-LL</b> MJ x MP 90° (from long)	<b>2501-L</b> MJ x MP 90° (short)	<b>2502</b> MJ x MP 90°	<b>2503</b> MJ x MP 45°	<b>2501</b> MJ x MJ x MP Tee	<b>2502</b> MJ x MJ x FP Tee	<b>2503</b> MJ x MJ x MJ Tee
<b>2606</b> MJ x MP x MJ Tee	<b>2608</b> MJ x MP x MJ Tee	<b>2650</b> MJ Cross	<b>2700</b> MJ x MJ Inboard 90° (under side opposite)	<b>2701</b> MJ x MJ Inboard 90° (under side opposite)	<b>2702</b> MJ Inboard 45° (under side opposite)	<b>2703</b> MJ Bkhd. Branch Tee (under side opposite)
<b>2704</b> MJ Bkhd. Run Tee (under side opposite)	<b>2705</b> FP x MJ Bkhd. (under side opposite)	<b>2706</b> MP x MJ Bkhd. (under side opposite)	<b>304-C</b> JIC Cap	<b>308-LN</b> Bulkhead Lock Nut	<b>318</b> JIC Tube Nut	<b>319</b> JIC Tube Sleeve
<b>3474</b> MAORB x MAORB	<b>5000</b> FP Hex Coupling	<b>5404</b> MP Hex Nipple (under length available)	<b>5405</b> MP x FP Connector	<b>5406</b> MP x FP Reducer	<b>5406-C</b> Hex Pipe Cap	<b>5406-HHP</b> Hollow Hex Plug
<b>5406-P</b> Hex Plug	<b>5500</b> MP x MP 90°	<b>5501</b> MP x MP 45°	<b>5502</b> MP x FP 90°	<b>5503</b> MP x FP 45°	<b>5504</b> FP x FP 90°	<b>5505</b> FP x FP 45°

### TUBE FITTINGS & ADAPTERS

<b>5600</b> MP x MP x MP Tee	<b>5602</b> MP x FP x FP Tee	<b>5603</b> MP x FP x MP Tee	<b>5604</b> FP x FP x MP Tee	<b>5605</b> FP x FP x FP Tee	<b>5652</b> FP Cross	<b>CN</b> MP Close Nipple
<b>6400</b> F2 x MORB (short length available)	<b>6401</b> MORB x MP	<b>6402</b> MORB x FJS	<b>6404</b> FORB x MP	<b>6405</b> MORB x FP	<b>6408</b> MORB Hex Plug	<b>6408-HH</b> Hollow Hex Plug
<b>6410</b> MORB x FORB	<b>6425</b> FORB x FORB	<b>6500</b> MJ x FJS 90°	<b>6501</b> MP x FJS 90°	<b>6502</b> MJ x FJS 45°	<b>6503</b> FP x FJS 90°	<b>6504</b> MJ x FJS
<b>6505</b> MP x FJS	<b>6506</b> FP x FJS	<b>6565</b> FJS x FJS	<b>6600</b> MJ x MJ x FJS Tee	<b>6602</b> MJ x MJ x MJ Tee	<b>6606</b> FJS x FJS x FJS Tee	<b>6701</b> MJ x FJS (table)
<b>6801</b> MJ x MAORB 90° (short length available)	<b>6802</b> MJ x MAORB 45°	<b>6803</b> MJ x MJ x MAORB Tee	<b>6804</b> MJ x MAORB x MJ Tee	<b>6805</b> FP x MAORB 90°	<b>6806</b> FJ x MAORB 90°	<b>6815</b> MAORB x FJOSB 90°
British Standard Pipe Threads						
<b>2404-BSPP</b> MJ x MSBPP	<b>2404-BSPT</b> MJ x MSBPT	<b>2501-BSPP</b> MJ x MSBPP 90°	<b>2406-BSPP-45HP</b> MSBPP Hollow Hex Plug	<b>2501-BSPP</b> MJ x MSBPP 90°	<b>7022</b> FJ x MSBPP	<b>7032</b> MP x MSBPP
<b>7042</b> MSBPP x FP	<b>7052</b> FBSPP x FP	<b>9022</b> MSBPP x MSBPP	<b>9023</b> MSBPP x FBSPP	<b>9033</b> FBSPP x FBSPP	<b>888</b> British Bonded Seal	

### DIN 2353 TUBE FITTINGS

<b>DU</b> Union	<b>DUE</b> Union Elbow	<b>DRU</b> Reducing Union	<b>DUT</b> Union Tee	<b>DUC</b> Union Cross	<b>DRUT</b> Reducing Union Tee	<b>DBHU</b> Bkhd. Union
<b>DBUW</b> Weld Bkhd. Union	<b>DBUE</b> Bkhd. Union Elbow	<b>DBMC-U/M</b> M.C. with O-Ring (under length available)	<b>DMC-G</b> Male Connector (90° Tee)	<b>DMC-R</b> Male Connector (90° Tee)	<b>DMC-M</b> Male Connector (90° Tee)	<b>DMC-MK</b> Male Connector (90° Tee)
<b>DMC-GEQ</b> M.C. with ED-Ring (90° Tee)	<b>DMC-MED</b> M.C. with ED-Ring (90° Tee)	<b>DMC-N</b> Male Connector (90° Tee)	<b>DME-R/M</b> Male Connector (90° Tee)	<b>DFC-G/M</b> Female Connector (90° Tee)	<b>DAE</b> Adjustable Elbow	<b>DABT</b> Adjustable Branch Tee
<b>DART</b> Adjustable Run Tee	<b>DSE</b> Swivel Adjustable Elbow	<b>DBRT</b> Swivel Adjustable Run Tee	<b>DPR</b> Standpipe Reducer	<b>DR</b> Reducer	<b>DSRA</b> Swivel Reducing Adapter	<b>DA-GEQ/MED</b> Adapter (90° Tee)
<b>DBA-GEQ/MED</b> Swivel Adapter (90° Tee)	<b>DSU</b> Swivel Union (90° Tee)	<b>DBE-G/M</b> Barjo Elbow (90° Tee)	<b>DBE-G/M</b> Barjo Elbow (90° Tee)	<b>DBHE-G/M</b> Barjo Elbow (90° Tee)	<b>DBHT-G/M</b> Barjo Tee (90° Tee)	<b>DCC-G</b> Pressure G.C. (90° Tee)
<b>DBGA-G</b> Pressure G.C. (90° Tee)	<b>DBA-G</b> Gauge Adapter (90° Tee)	<b>DTPC</b> Tee Tee Flange Connector	<b>DTC</b> Tee Coupling	<b>DWC</b> Welding Connector	<b>DAWC</b> Welding Connector with O-Ring	<b>DWN</b> Welding Nipple
<b>DRWN</b> Reducing Weld Nipple	<b>DMFC</b> Male x Female Con. (90° Tee)	<b>DMFG</b> Male x Female G.C. (90° Tee)	<b>DMFC-ED</b> Male x Female Con. (90° Tee)	<b>DMFG-ED</b> Male x Female G.C. (90° Tee)	<b>DC</b> Tube Cap	<b>DP</b> Plug
<b>DBP-GEQ/MED</b> Blanking Plug (90° Tee)	<b>DBP-M</b> Blanking Plug (90° Tee)	<b>DN</b> Nut	<b>DS</b> Cutting Ring	<b>DED</b> ED-Ring	<b>DOR</b> O-Ring	