PERFECTION IS OUR STANDARD...



Quality, Integrity, Experience



# Providing **Precision engineering** solutions for the most **demanding environments**

Colson X-Cel Ltd is a well established and most highly respected valve manufacturer based in the UK with a global reputation for excellence in product design, quality, reliability and the highest levels of customer service. We take great pride in our work and all of our products are produced to the requirements of an ISO 9001:2008 Quality Assurance environment.

Since the 1990's, Colson X-Cel Ltd have been entrenched as a key valve supplier within the Chemical, Offshore, Oil and Gas Industries, satisfying the needs of a market known for its arduous requirements for product performance and reliability, quality assurance, traceability, certification, and documentation. Involvement in numerous oil and gas projects around the world during the last two decades has enabled the Company

to gain valuable commercial experience in managing large projects for major companies in the Chemical, Offshore, Oil and Gas Industries, where delivery lead times are critical and failure is not an option.

We at Colson X-Cel Ltd are firmly committed to the ongoing support of our customers, to extending our reach into new markets where our expertise as first class designers and manufacturers of valves for the Chemical, Offshore, Oil and Gas Industries, with requirements such as Fire safe design To BS6755 pt2/API 6D and the subsea design to the PR2 specification

Operating from a 30,000-sq/ft manufacturing facility in Elland West Yorkshire, England, Colson X-Cel Ltd offers a wide range of Ball, Needle, Check, Manifold and Double Block and Bleed valves in sizes from 1/4 Inch to 3 Inch and in materials from 316SS to Duplex, Alloy 400, C276 and all other Super Alloys, as well as being one of the world leaders in bespoke valve manufacturing to suit the ever changing needs of the Chemical, Offshore, Oil and Gas Industries.

P/NO:7500156912 VDS CODE:SDBB, 1"VAM,F/S,(1) W/O 32461 001

# **OUR SERVICES**

At Colson X-Cel Ltd, we have our own machinery to assist in the manufacturing of production and also specials in all materials and are especially experienced in manufacturing parts of all types in High Nickel Alloys. As we have designed the valves completely, we are in the best position to know how to produce them.

We have 15 state of the art CNC machines both turning and milling configurations with all the latest technology in tooling and work holding to manufacture our parts economically yet very accurately. Our team of manufacturing engineers work closely with design ensuring we produce our valves in the most economical yet accurate way possible.

After machining, all our component parts pass through a rigorous inspection process including using CNC CMM's and Faro arm technology before being allowed to continue their path into our stores and prior to assembly.



Within group we can offer in-house NDE, Painting and PMI negating the need to use sub-contract suppliers many of whom are already short of capacity, we have the flexibility and full control from most of the processes involved in manufacturing our valves.

Our assembly department and staff can handle large and small production batches and all our valves are well documented through all processes including 100% testing of valves produced.



# PRODUCTS

## Modular Double Block & Bleed (DBB) Valves

Colson X-Cel can supply a range of primary isolation double block and bleed valves (DBB) meeting the requirements of both instrument and piping engineer's needs.

The valves offer significant savings in both weight and space as well as reducing installation time and cost. Suitable for isolation of lines, Sampling or chemical injection service the valves can be supplied using ball, Outside Screw and Yoke (OSY), bolted or threaded bonnet needle valves.

Connections can be manufactured that include flanged, threaded, hubbed, compression or welded and are available in single piece or bolted construction.

Materials: CS,SS, Monel, Hastalloy, Duplex and High Nickel alloys. Seat: Metal or soft. Firesafe as standard. Connections: 1/2" to 8" threaded, welded, flanged or Hubbed. Bore sizes: 1/4" (6mm) to 8" (200mm) Pressure (max): Ansi class 2500 - 6,000 psig (414 barg) and API 10K (10,000 psig(690 barg) Temperature (max): 1000 °F (538 °C) Design Standards: ASME / ANSI B16.34 / B16.5 Safety Factor: 4:1 NACE MR0175 / ISO 15156 available Smooth Low Torque Operation

#### Sample & Chemical Injection Valves

Colson X-Cel can supply a range of primary isolation double block and bleed valves (DBB) meeting the requirements of both instrument and piping engineer's needs.

The valves offer significant savings in both weight and space as well as reducing installation time and cost. Suitable for isolation of lines, Sampling or chemical injection service the valves can be supplied using ball, Outside Screw and Yoke (OSY), bolted or threaded bonnet needle valves. Connections can be manufactured that include flanged, threaded, hubbed, compression or welded and are available in single piece or bolted construction.

#### Sample Valves

The use of a DBB valve with a sample probe replaces conventional multi-valve assembly to take process samples. A sample probe integral to the DBB valve is scarf out to allow process pressure into the valve where a sample can be removed safely without stopping flow.



#### **Chemical Injection Valves**

Also using a standard DBB valve design the chemical injection valve allows the safe injection of chemicals into the process line at full pressure.

The probe usually features a 3mm (1/8") hole or spray nozzle allowing the injection to be dispersed into the process evenly. A check valve on the inlet prevents any back flow out of the process stream.

Materials: CS,SS, Monel, Hastalloy, Duplex and High Nickel alloys. Seat: Metal or soft. Firesafe as standard. Connections: 1/2" to 8" threaded, welded, flanged or Hubbed. Bore sizes: 1/4" (6mm) to 8" (200mm) Pressure (max): Ansi class 2500 - 6,000 psig (414 barg) and API 10K (10,000 psig(690 barg) Temperature (max): 1000 °F (538 °C)

#### Slimline Monoflanges

Colson X-Cel range of primary isolation Slimline Monoflange also meet the requirements of both instrument and piping engineer's needs.

Suitable for mounting vertically or horizontally and in Double block and bleed, Single block and bleed or single isolation option The valves offer significant savings in both weight and space as well as reducing installation time and cost. Suitable for isolation and venting of lines the valve reduces potential vibration problems and allows the gauge to be mounted in tight areas. Available in Outside Screw and Yoke (OSY), bolted or threaded bonnet needle valves using any combination of the options and with true 5mm bores throughout it totally meets the needs of EEMUA 182. Connections can be manufactured that include flanged and hubbed to suit the client's needs.

Materials: CS,SS, Monel, Hastalloy, Duplex and High Nickel alloys. Seat: Metal or soft. Firesafe as standard. Connections: 1/2" to 8" threaded, welded, flanged or Hubbed. Bore sizes: 1/4" (6mm) to 8" (200mm) Pressure (max): Ansi class 2500 - 6,000 psig (414 barg) and API 10K (10,000 psig(690 barg) Temperature (max): 1000 °F (538 °C) Design Standards: ASME / ANSI B16.34 / B16.5 Safety Factor: 4:1 NACE MR0175 / ISO 15156 available Smooth Low Torgue Operation

## **PRODUCTS CONTINUED**

#### **Ball Valves**

All Colson X-Cel Ltd ball valves are designed and manufactured in the UK and available in both instrument and piping clas designs.

Our valves are available for use as single isolation with threaded, welded, hubbed, compression, flanged or other connections. All designs can supplied suitable for Actuation, panel mounting or with 316 st/st lever handles plus other options as required. The design includes anti-blow out stem, body and stem sealing and handles which can be removed without compromising the pressure seal.

Materials: CS, SS, Monel, Hastalloy, Duplex and High Nickel alloys. Seat: Metal or Soft. Firesafe optional. Connections: ¼" (6mm) to 3" (75mm). Bore sizes: 3/8" (10mm) to 3" (75mm) Pressure: max API 10,000psi (690 barg)

#### **Manifold Valves**

Colson X-Cel manifold valves are suitable for use with virtually all available D/P instruments.

Used in either direct or remote mount situations the 3 or 5 valve models allow for isolation, equalise and venting and can be manufactured in bespoke configurations to suit our client's needs.

Materials: CS,SS, Monel, Hastalloy, Duplex and High Nickel alloys. Seat: Metal or soft. Connections: ¼" to 1/2" threaded or flange mounted.. Pressure (max): 6,000 psig (414 barg) Temperature (max): 1000 °F (538 °C)

## **Needle Valves**

Colson X-Cel hand valves are suitable for all instrument isolation applications, giving repeatable bubble tight shut off.

Metal and soft seat options are available for use in gas or liquid service and rated up to 10,000 psi (690 barg). The severest of services can utilise the Colson X-Cel valves manufactured in the all grades of standard or exotic materials.

Materials: CS,SS, Monel, Hastalloy, Duplex and High Nickel alloys. Seat: Metal or soft. Connections: ¼" to 2" threaded, welded, flanged or compression ended. Pressure (max): 10,000 psig (690 barg) Temperature (max): 1000 °F (538 °C)



## **Gauge Valves**

Colson X-Cel Gauge valves include multiport or block and bleed style for pressure gauge isolation, calibration and venting.

As with the hand values the seat options give repeatable bubble tight shut off. Metal and soft seat options are available for use in gas or liquid service and rated up to 10,000 psi (690 barg). The severest of services can utilise the Colson X-Cel values manufactured in the all grades of standard or exotic materials.

Materials: CS,SS, Monel, Hastalloy, Duplex and High Nickel alloys.
Seat: Metal or soft.
Connections: ¼" to 1" threaded, welded, flanged or compression ended.
Pressure (max): 10,000 psig (690 barg)
Temperature (max): 1000 °F (538 °C)

## **Gauge Manifolds**

Colson X-Cel Gauge manifold valves are suitable for a range of static pressure instruments from gauges to smart pressure transmitters.

Used in either direct or remote mount situations the gauge manifold enables isolation, calibration and venting in one unit.

Materials: CS,SS, Monel, Hastalloy, Duplex and High Nickel alloys.
Seat: Metal or soft.
Connections: ¼" to 1/2" threaded, welded, flanged or for direct mounting.
Pressure (max): 6,000 psig (414 barg)
Temperature (max): 1000 °F (538 °C)

## Valve Accessories

Available supplied individually or fitted to a valve the range of accessories give the customer flexibility with their instrument valve and manifold requirements.

Products manufactured include Blanking plugs, bleed plugs, bleed valves, gauge adaptors, and air distribution manifolds.





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# DIFFERENTIAL PRESSURE / STATIC PRESSURE CLOSE COUPLED INSTRUMENTATION SOLUTIONS



# WELCOME TO COLSON X-CEL LTD

## **Colson DPX-Cel Differential Flow Measurement**

Differential Pressure Flow Metering has been around for over a 100 years! Over that time installations have been fraught with problems including:

- Impulse lines being damaged
- Impulse lines plugging, Blocking or Freezing
- Vibration
- Connection Failure (Orifice Nipples)
- Constant Maintenance to limit fugitive Emissions / Maintain Integrity
- Unequal impulse line length leading to errors

Designed in accordance with the already proven philosophies of EEMUA 182 & Shell Specifications 77/170 (Formally 77/162 (165)). The DPX-CEL AND PTX-CEL Series of Manifolds introduces Piping and Instrumentation Engineers to the next generation of Double Block & Bleed Manifolds for Instrument purposes. Reduction in installation and Maintenance costs whilst reducing the number of joints and potential leak paths are all achieved with the use of these In-Line Closed Coupled Manifolds.

#### BRIDGE UNIT CAN BE SUPPLIED WITH NPT TAPPINGS, FOR INTEGRALCARTRIDGE TYPE HEATING

- DESIGNED IN ACCORDANCE WITH ASME VIII DIV 1 ANNEX 2 ASME B16:36 ASME B16:34.
- LOWER COST INSTALLATIONS, NO VALVES OR BRACKETS TO HANG OFF THE TWO TRADITIONAL PRESSURE TAPPINGS WITHIN ORIFICE FLANGES.
- CLOSER COUPLING OF PRESSURE GAUGES AND TRANSMITTERS.
- FEWER NUMBERS OF JOINTS REDUCES RISK OF EXTERNAL PROCESS LEAKAGE.
- NO INDUCED BENDING MOMENTS ABOUT TRADITIONAL PRESSURE TAPPINGS WITHIN ORIFICE FLANGES.
- NO REQUIREMENT FOR SUPPORT BRACKETS THEREBY REDUCING INSTALLATION COSTS.
- DESIGN ALLOWS EASY WEATHER PROTECTION INSTALL FOR INSTRUMENTATION.
- AVAILABLE WITH THREADED OUTLET AND VENT CONNECTIONS 1/4", 1/2" NPT OR G1/4" & G1/2".
- AVAILABLE IN ALL SIZES AND CLASSES OF FLANGES ANSI B16:5 OR API.6A.
- MANIFOLD ASSEMBLIES ARE SUPPLIED COMPLETE WITH CUSTOMER SPECIFIED ORIFICE PLATE, GASKETS AND BOLTING.
- MANIFOLD ASSEMBLIES ARE SUPPLIED FULLY PRESSURE TESTED AND READY FOR INSTALLATION INTO THE PROCESS LINE.
  - LARGER SIZE UNITS CAN BE SUPPLIED WITH ADDITIONAL CO-PLANER BRACKET FOR STABILISATION.
  - DESIGN ALLOWS FOR 360° INCREMENTAL ROTATION TO ASSIST VENTING / DRAINING.
  - NO TRADITIONAL LINE UP PROBLEM OF PRESSURE TAPPINGS DURING INSTALLATION AS UNIT IS PRE-ASSEMBLED AND TESTED BEFORE SHIPPING TO SITE.
  - ALL VALVES AND FLOW PASSAGES ARE A FULL 1/4" BORE, AND CAN BE SUPPLIED IN ANY COMBINATION OF BOLTED OR SCREWED DESIGN.
  - THE FLEXIBILITY OF THE CUSTOMISED AND FULLY PATENTED DESIGN ALLOWS FOR EASY INSTALLATION WITHIN BOTH BROWN AND GREEN FIELD SITES/PROJECTS.

INTEGRAL TEMPERATURE SENSOR NEGATING THE USE OF PIPELINE THERMOWELLS

JRGE (P1)

PRIMARY ISOLATE (P1)

HIGH SIDE / P1

VENT (P1)

LOW SIDE / P2

VENT (P2)

PURGE (P2)

Patent Registered Design. 1543265, 60321364.2, 7591192, 215368, 03822374.0

#### **Colson PX-Cel Static Pressure Measurement**

Utilising the field proven technology of the DPX series of manifolds. The PX series provides piping and instrument engineers an inline compact Double Block and Bleed manifold. Eliminating the requirement for "Dead Leg" branches / tappings into the main process pipe thereby reducing both installation and maintenance costs whilst reducing significantly the number of joints and potential leak paths.

- DESIGNED IN ACCORDANCE WITH ASME VIII DIV 1 ANNEX 2 ASME B16:5, ASME B16:34
- LOWER COST INSTALLATIONS, NO VALVES OR BRACKETS TO HANG OFF TRADITIONAL DEAD LEG BRANCHES.
- CLOSER COUPLING OF PRESSURE GAUGES AND TRANSMITTERS.
- FEWER NUMBERS OF JOINTS REDUCES RISK OF EXTERNAL PROCESS LEAKAGE.
- NO INDUCED BENDING MOMENTS ABOUT TRADITIONAL BRANCHES.
- NO REQUIREMENT FOR SUPPORT BRACKETS THEREBY REDUCING INSTALLATION COSTS.
- DESIGN ALLOWS EASY WEATHER PROTECTION INSTALL FOR INSTRUMENTATION.
- AVAILABLE WITH THREADED OUTLET AND VENT CONNECTIONS 1/4", 1/2" NPT OR G1/4" & G1/2".
- AVAILABLE IN ALL SIZES AND CLASSES OF FLANGES ANSI B16:5 OR API.6A.
- MANIFOLD ASSEMBLIES ARE SUPPLIED COMPLETE TO CUSTOMER SPECIFICATIONS.
- MANIFOLD ASSEMBLIES ARE SUPPLIED FULLY PRESSURE TESTED AND READY FOR INSTALLATION INTO THE PROCESS LINE.
- DESIGN ALLOWS FOR 360° INCREMENTAL ROTATION TO ASSIST VENTING / DRAINING.
- ALL VALVES AND FLOW PASSAGES ARE A FULL 1/4" BORE, AND CAN BE SUPPLIED IN ANY COMBINATION OF BOLTED OR SCREWED DESIGN.
- THE FLEXIBILITY OF THE CUSTOMISED AND FULLY PATENTED DESIGN ALLOWS FOR EASY INSTALLATION WITHIN BOTH BROWN AND GREEN FIELD SITES/PROJECTS.







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