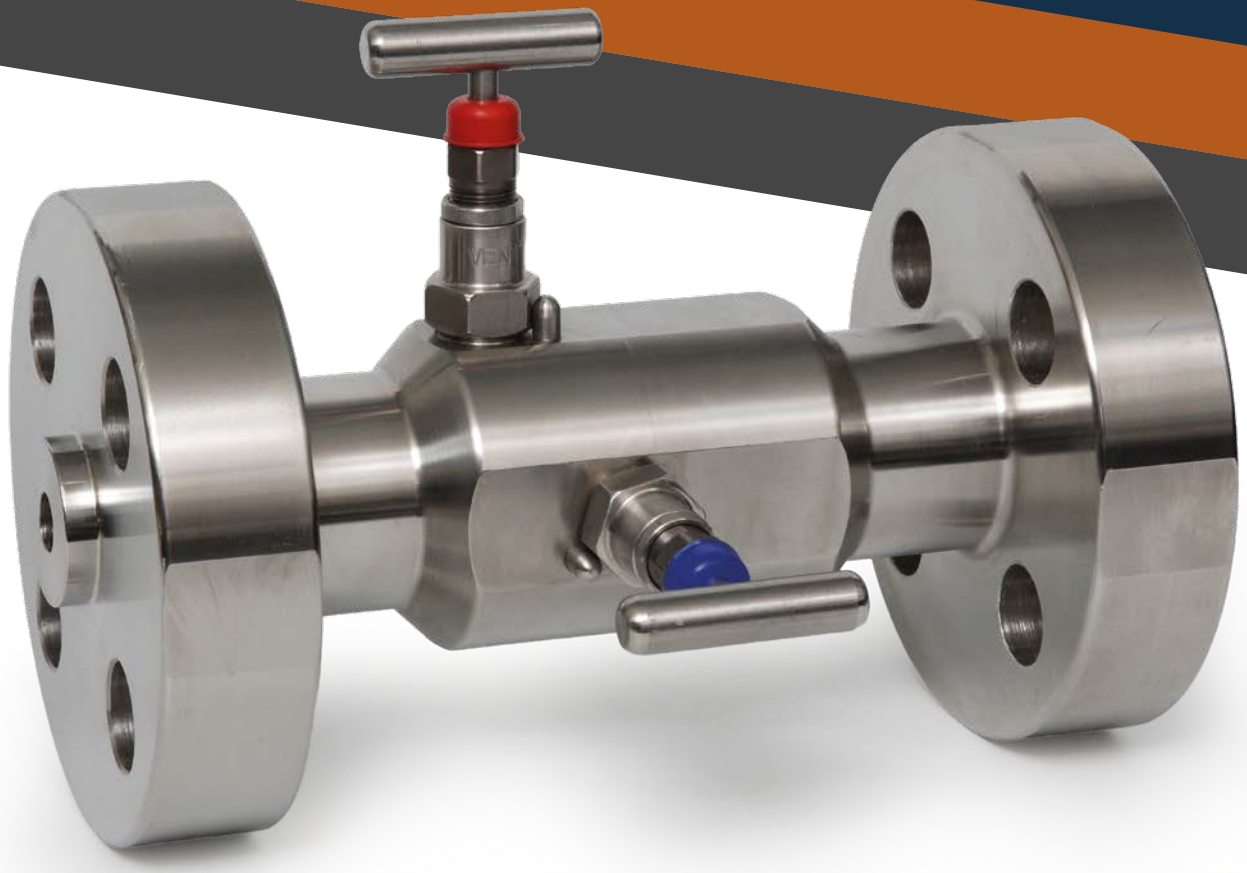
indra
VALVES - ITALY

MONOFLANGE & MONOBLOCK NEEDLE VALVES

EXCELLENCE, RELIABILITY, PERFORMANCE



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COMPANY

WHO WE ARE

Founded in Italy in 1987 and headquartered in Magenta, near Milan, **Indra Srl** was established as **Industriali Rappresentanze** (hence **Ind.ra.**) and soon evolved into a **fully integrated manufacturer of standard & tailor-made valves.**

The company specializes in **customer-engineered ball and needle valves** in a wide range of configurations and has a strong expertise in **DBB and SBB valves for very high-pressure, cryogenic, and hydrogen applications.** Indra is also a leading manufacturer and main supplier of **SIL 4 interlocking manifolds** for HIPPS systems.

1987
Year of Foundation

80.000 UNITS
Yearly Production

90
Employees

460
Projects acquired in recent years

- **1987** — Establishment date
- **2019** — Bunker for high pressure test
- **2020** — Cryogenic test tank
- **2021** — New machinery & equipment
- **2022** — 35th Company Anniversary
- **2023** — New machinery & equipment
- **2024** — New test bench
- **2025** — Achieved 50 end-user approvals

IN HOUSE
PRODUCTION PROCESS

All the production phases are carried out
in-house assuring a total process control.

ENGINEERING
& DESIGN

01

MACHINING

02

QUALITY
CONTROL
& NDT's

03

ASSEMBLING

04

HIGH PRESSURE
TEST BUNKER

05

SYSTEM CERTIFICATIONS

UNI EN ISO 9001:2015
UNI ISO 45001:2018
UNI EN ISO 14001:2015

BONNET TECHNOLOGY

The **bonnet** is a critical component of a needle valve or instrument manifold, it must guarantee smooth, safe, and leakage-free operation.

Key Functions

Blow-out Proof Stem: The design of Indra bonnet prevents the stem from being ejected during operation. This is crucial to ensure **operator safety.**

Non-Rotating Stem Tip: The stem tip (obturation mechanism) is designed to be free from rotation relative to the stem itself. This design prevents wear on the seat, avoiding leaks that are a very frequent issue when the stem and tip are manufactured as a single, piece.

Multiple Sealing Points Against Leaks: The design features primary and secondary sealing points, which provide absolute assurance of zero leakage.

Common Indra bonnet Designs

The choice of bonnet design is critical for safety and operational integrity, especially in high-pressure systems:

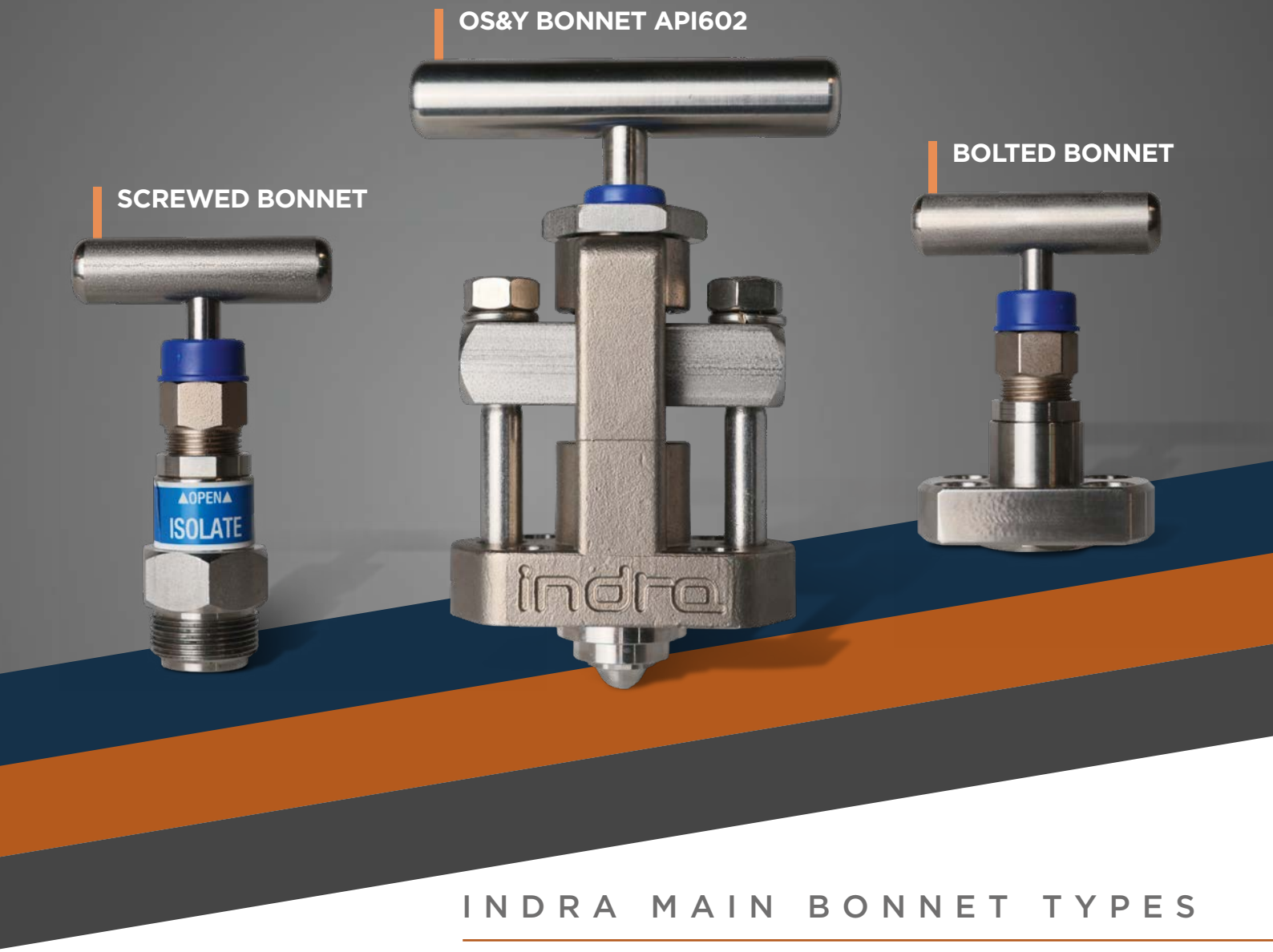
Screwed Bonnet: The bonnet is screwed into the valve body. This design is simple and common for general service. It relies on the threads and usually a gasket for sealing.

OS & Y (outside screw & yoke) : The yoke is a rigid structure fixed to the bonnet that supports the stem nut and houses the external threads of the stem. When the operator turns the handle the stem raises or lowers (opening or closing the valve) without the threaded section ever coming into contact with the process fluid. This design, with the threading external to the pressure zone, prevents corrosion, erosion, and contamination by the fluid, ensuring extended valve life and consistently smoother operations.

Bolted Bonnet: The bonnet is secured to the body by a separate union bolted bracket. This design provides maximum body joint strength and is preferred for applications involving high temperatures, high pressure, or thermal cycling, as it ensures the integrity of the pressure boundary even under stress.

For **cryogenic applications**, or high temperature service a special **Extended Bonnet** design is used, which acts as a thermal barrier by placing the stem packing away from the extreme cold or heat, ensuring the packing operates at a functional temperature (see earlier description).

BONNET DESIGN



INDRA MAIN BONNET TYPES


SCREWED BONNET STANDARD


SCREWED BONNET ANTITAMPER


SCREWED BONNET LOCKABLE


BOLTED BONNET STANDARD


BOLTED BONNET EXTENDED


OS&Y COMPACT

OS&Y API602


OS&Y INSULATION 50MM


OS&Y INSULATION 80MM LOCKABLE


OS&Y LOCKABLE CRYOGENIC

BONNET COLOR FUNCTION

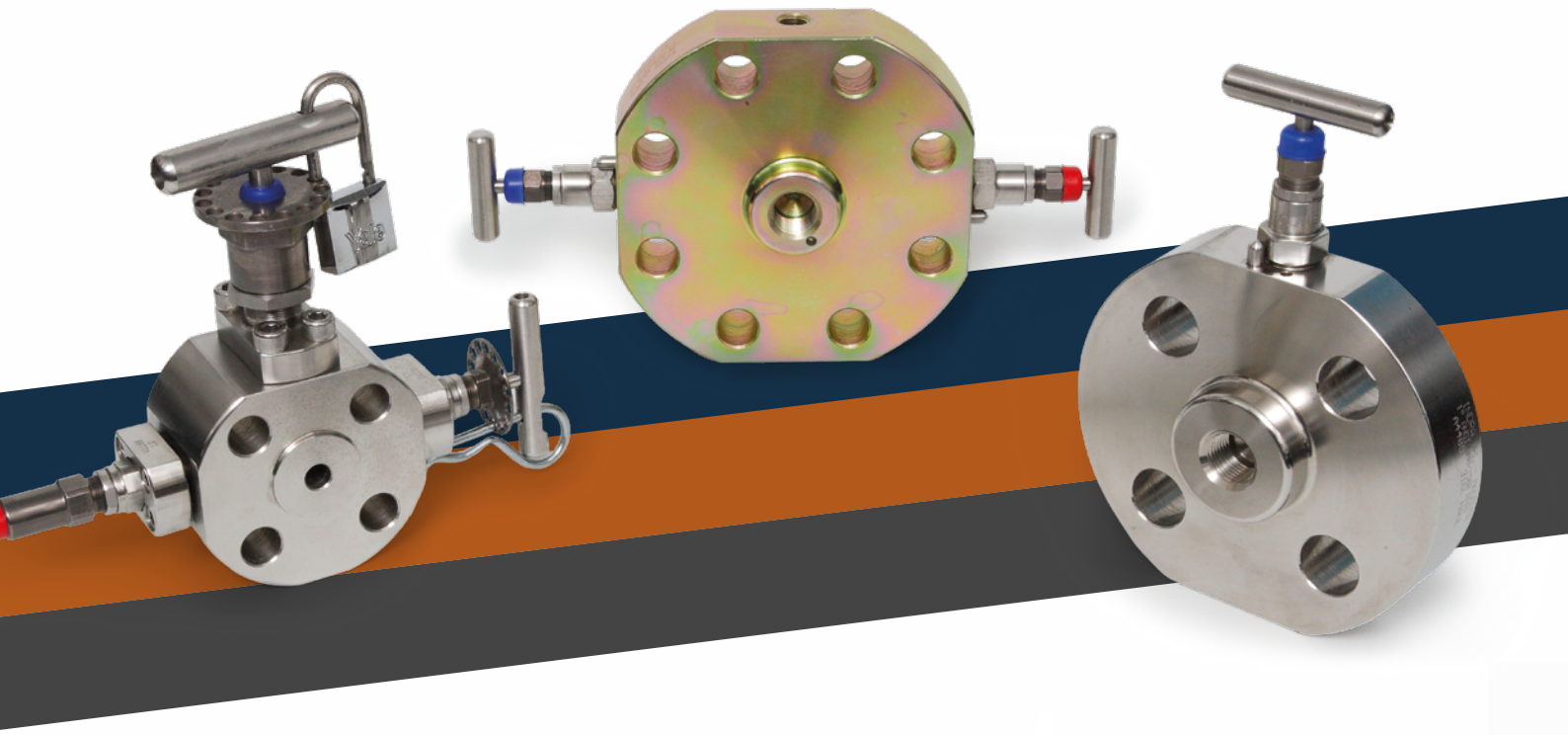
BLUE (isolating)

RED (venting)

GREEN (equalizing)

MONOFLANGE

Indra Monoflange valves provide a compact, integrated solution for connecting process piping to pressure measurement systems. Designed to replace traditional multi-valve assemblies, they combine isolation and venting functions within a single forged body. Available in different configurations, connection types and flange faces.



KEY BENEFITS & FEATURES

Compact Installation: Integrated design minimizes footprint, ideal for skids and space-constrained installations.

Reduced Leak Paths: Fewer flanged connections significantly lower the risk of fugitive emissions.

Weight & Support Optimization: Lower system weight reduces vibration and mechanical stress, often eliminating the need for additional supports.

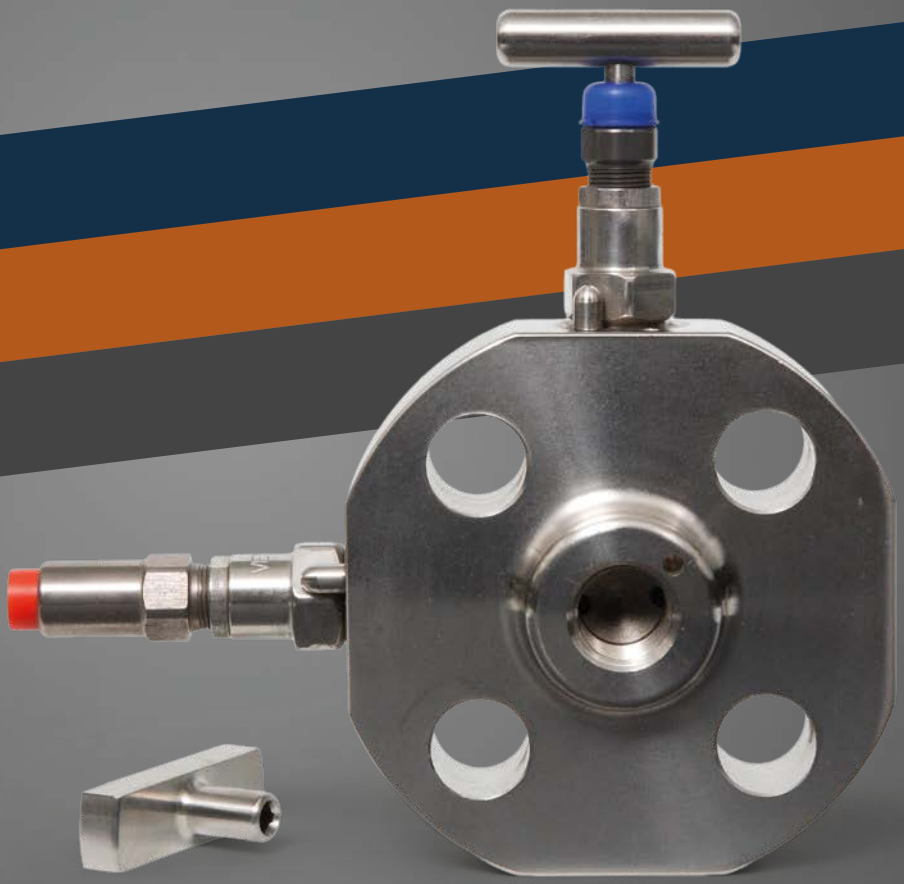
Cost-Effective Solution: Simplified design reduces installation time, procurement complexity, and maintenance costs.

High-Grade Materials: Available in Stainless Steel, Duplex, Super Duplex, Monel, and Inconel for long-term performance in corrosive environments.

MONOFLANGE
PRODUCT OVERVIEW

SBB & SB monoflange needle valves:

Designed for space-saving and safety-critical installations, Indra Monoflange SB and SBB valves integrate isolation and bleed functions into one robust unit, simplifying piping layouts while ensuring high integrity and operational reliability. In addition to standard configurations, Indra's engineering team develops custom solutions tailored to specific customer requirements.



Connection options: Available in Flange/Flange or Flange/Threaded configurations for seamless integration into any process system

Sealing flexibility: Flange faces supplied in Flat Face (FF), Raised Face (RF), or Ring Joint (RTJ) finishes to meet diverse sealing requirements

Safety locking: Optional padlockable handles or locking pins to prevent unauthorized or accidental operation

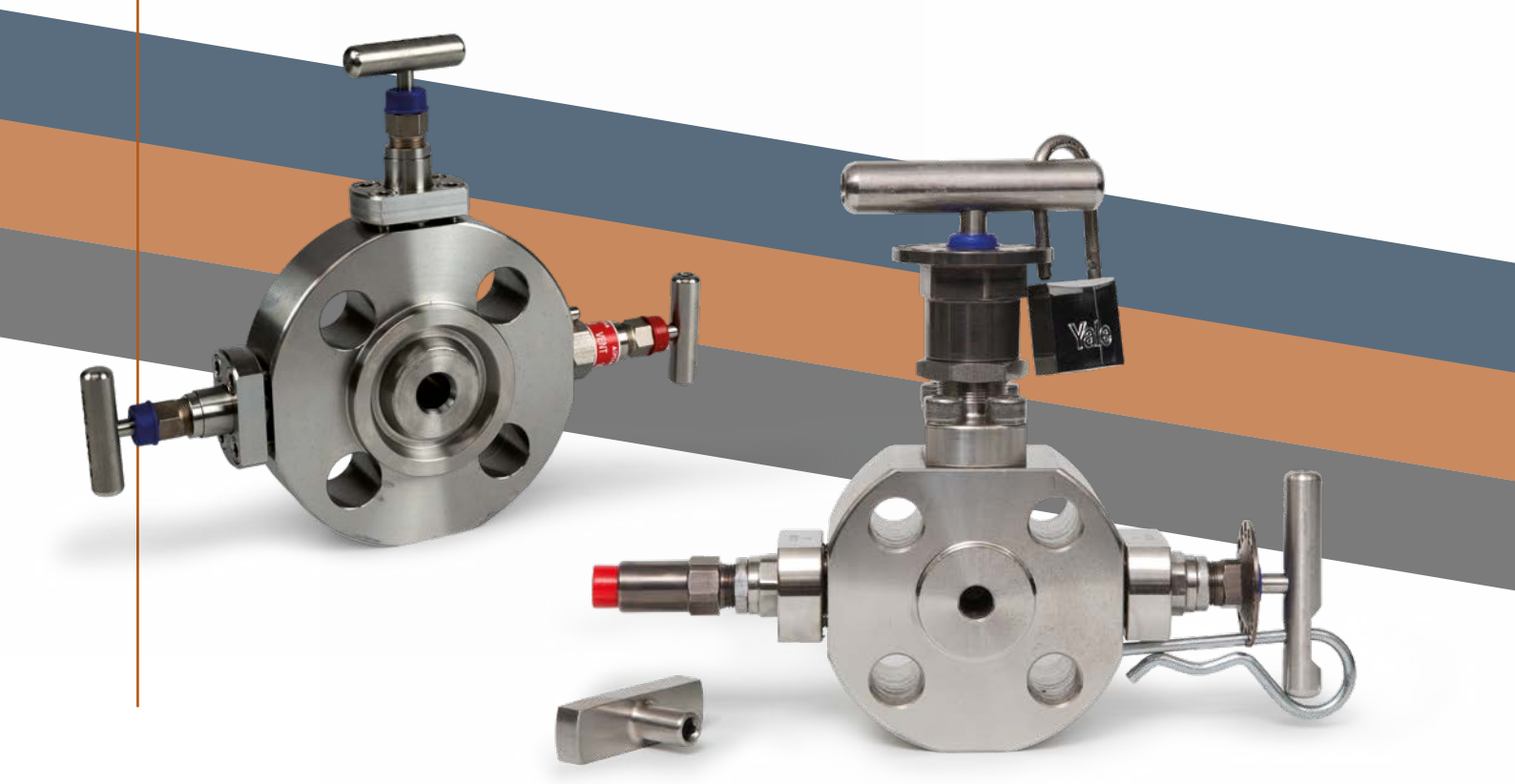
Low temperature & cryogenics: engineered with specific design features and materials to withstand extreme contitions and ensure safe and efficient operations

MONOFLANGE
PRODUCT OVERVIEW

DBB monoflange needle valves:

Indra Monoflange DBB valves are engineered to ensure maximum process isolation and safety by integrating double isolation and bleed functions into a single compact assembly. Available in flange/flange and flange/threaded configurations, these monoflange valves can be supplied in standard or fully customized designs, engineered by Indra's technical team to satisfy the most demanding customer specifications and critical service conditions.

All monoflange needle valves can be equipped with a safety locking provision, supporting both **padlockable handles** and **locking pins** to prevent unauthorized or accidental operation.



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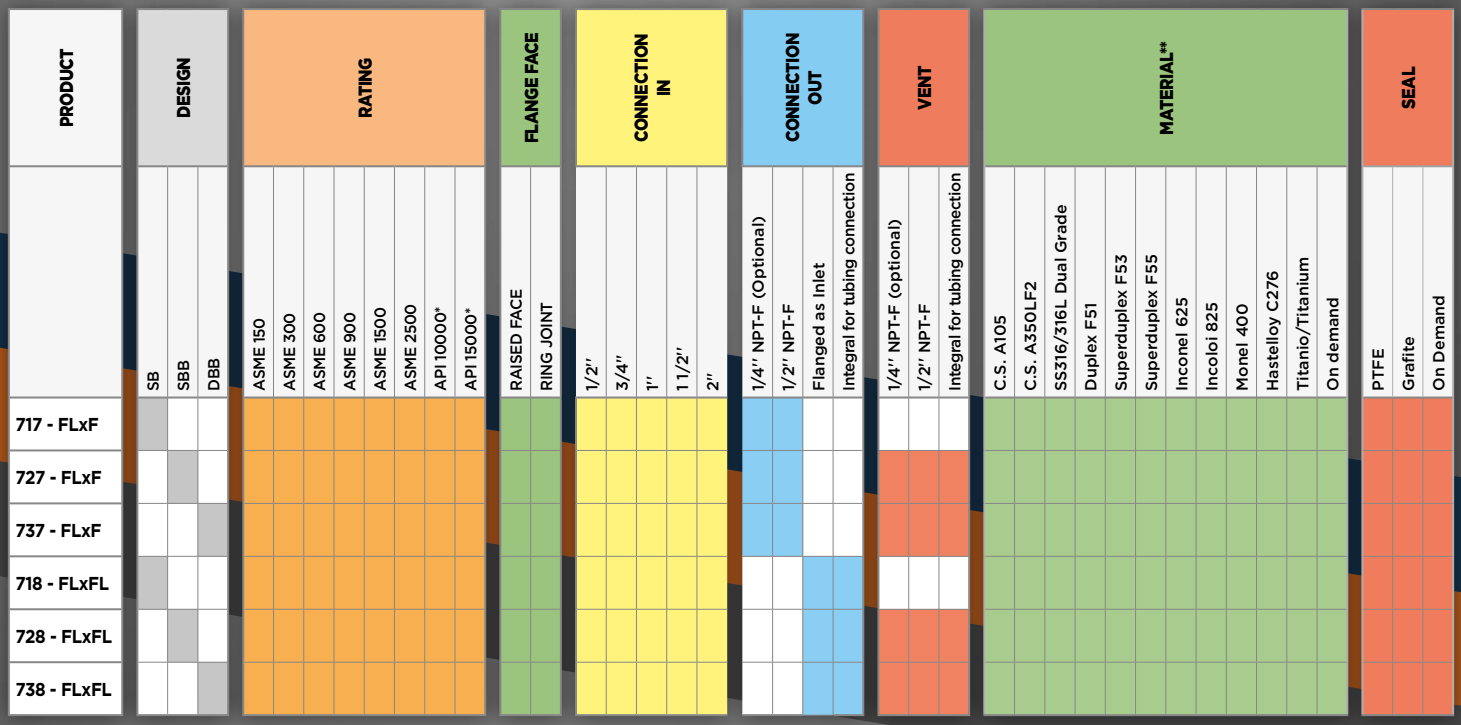
Safety locking: Optional padlockable handles or locking pins to prevent unauthorized or accidental operation

Low temperature & cryogenics: engineered with specific design features and materials to withstand extreme contitions and ensure safe and efficient operations

MONOFLANGE

DATA BOX



PRODUCT	DESIGN			RATING								FLANGE FACE		CONNECTION IN					CONNECTION OUT				VENT			MATERIAL**										SEAL		
	SB	SBB	DBB	ASME 150	ASME 300	ASME 600	ASME 900	ASME 1500	ASME 2500	API 10000*	API 15000*	RAISED FACE	RING JOINT	1/2"	3/4"	1"	1 1/2"	2"	1/4" NPT-F (Optional)	1/2" NPT-F	Flanged as Inlet	Integral for tubing connection	1/4" NPT-F (optional)	1/2" NPT-F	Integral for tubing connection	C.S. A105	C.S. A350LF2	SS316/316L Dual Grade	Duplex F51	Superduplex F53	Superduplex F55	Inconel 625	Incoloi 825	Monel 400	Hastelloy C276	Titanio/Titanium	On demand	PTFE	Grafite	On Demand
717 - FLxF																																						
727 - FLxF																																						
737 - FLxF																																						
718 - FLxFL																																						
728 - FLxFL																																						
738 - FLxFL																																						

DB configuration available on-demand

F = FEMALE THREAD
FL = FLANGED

*API size ranges (up to 1" 13/16)
**NACE-compliant materials available upon request.

MONOBLOCK

Indra Monoblock needle valves provide a heavy-duty, single-piece interface between process lines or vessels and pressure instruments. Designed for direct mounting, they ensure reliable isolation while eliminating the complexity of traditional multi-valve “Christmas tree” assemblies.

Available in SB, SBB, DB, and DBB designs, they deliver a more compact and reliable solution for high-pressure applications.

KEY BENEFITS & FEATURES

Connection Versatility: Accommodates threaded, flanged, welded, or mixed inlet/outlet combinations for easy system integration.

One-Piece Forged Body: Superior strength and durability, rated up to 15.000 PSI.

Simplified Maintenance: High-quality needle internals enable easy servicing and reduced downtime.

Safety-Focused Design: Anti-blowout stems and non-rotating tips ensure precise control and operator safety.

Compact System Replacement: Streamlined alternative to multi-valve manifolds, reducing weight, installation effort, and system complexity.

CONNECTION TYPE OPTIONS

The Monoblock series offers exceptional connection flexibility, to ensure compact installation and reliable integration with process lines and pressure instruments.

THREADED

For direct mounting of pressure instruments such as gauges, switches, and transmitters, with standard rating 6.000 PSI, 10.000 PSI, optional up to 15.000 PSI.

BW & SW WELDED

Butt-weld and socket-weld executions for permanent, high-integrity connections, with pressure rating according to pipe schedule.

FLANGED

Flanged inlet and outlet connections for direct installation in process lines, rated according to flange class up to Class 2500.

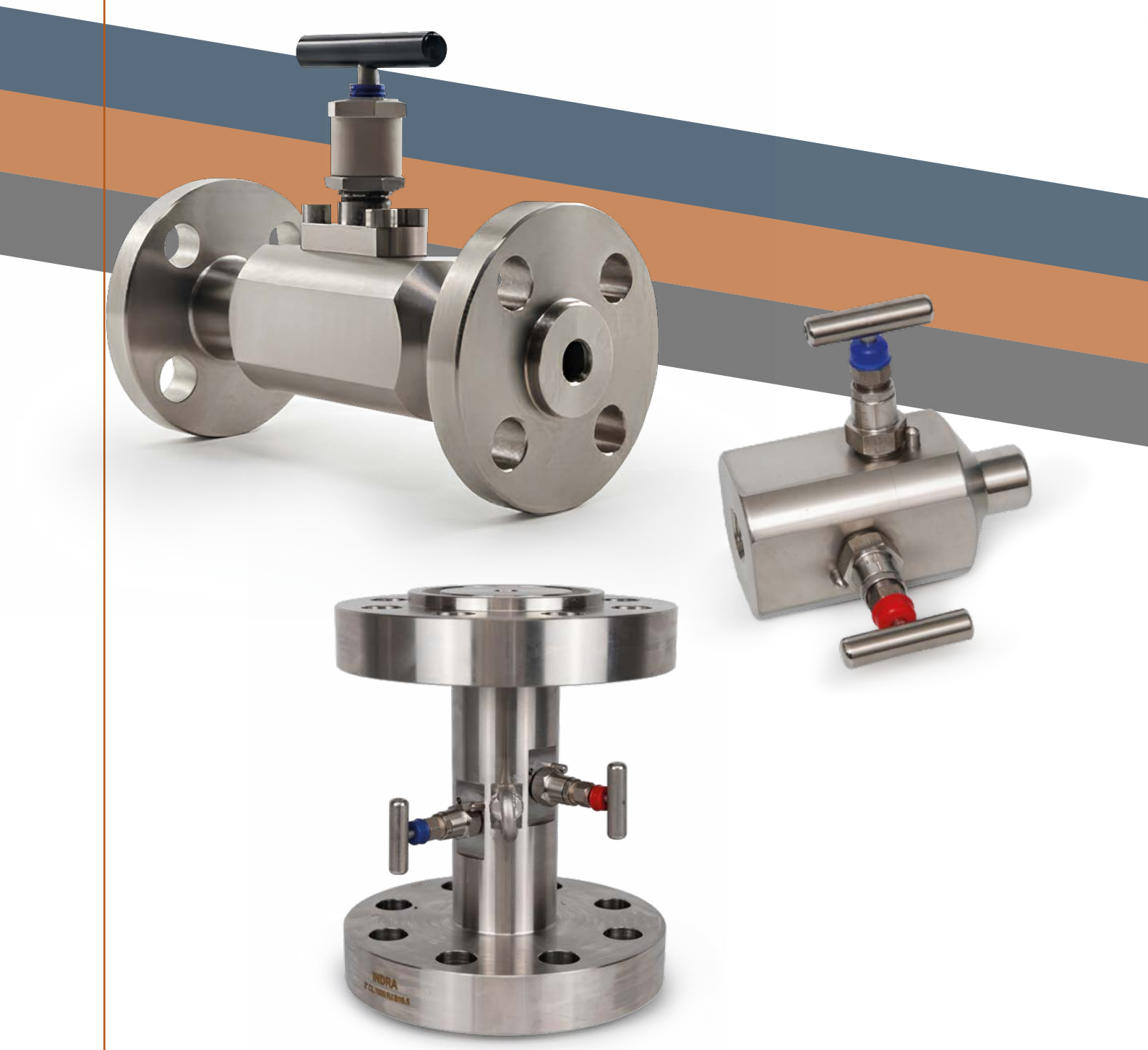
HUB

A compact, clamp-style mechanical interface designed for high-pressure and subsea service. It provides significant weight reduction and superior vibration resistance.

MONOBLOCK
PRODUCT OVERVIEW

Monoblock SBB & SB:

Indra Monoblock SBB and SB valves provide a compact and reliable solution for instrument isolation and venting, integrating shut-off and bleed functions into a single body. Designed for direct mounting to pressure instruments, they reduce installation complexity while ensuring high integrity and safe operation in high-pressure services.



Monoblock DBB & DB:

Indra Monoblock DDB and DB valves are engineered to ensure maximum process isolation and safety by integrating double isolation and bleed functions within a single compact assembly. Designed for critical and high-pressure applications, they provide superior reliability while minimizing system size, weight, and potential leak points.

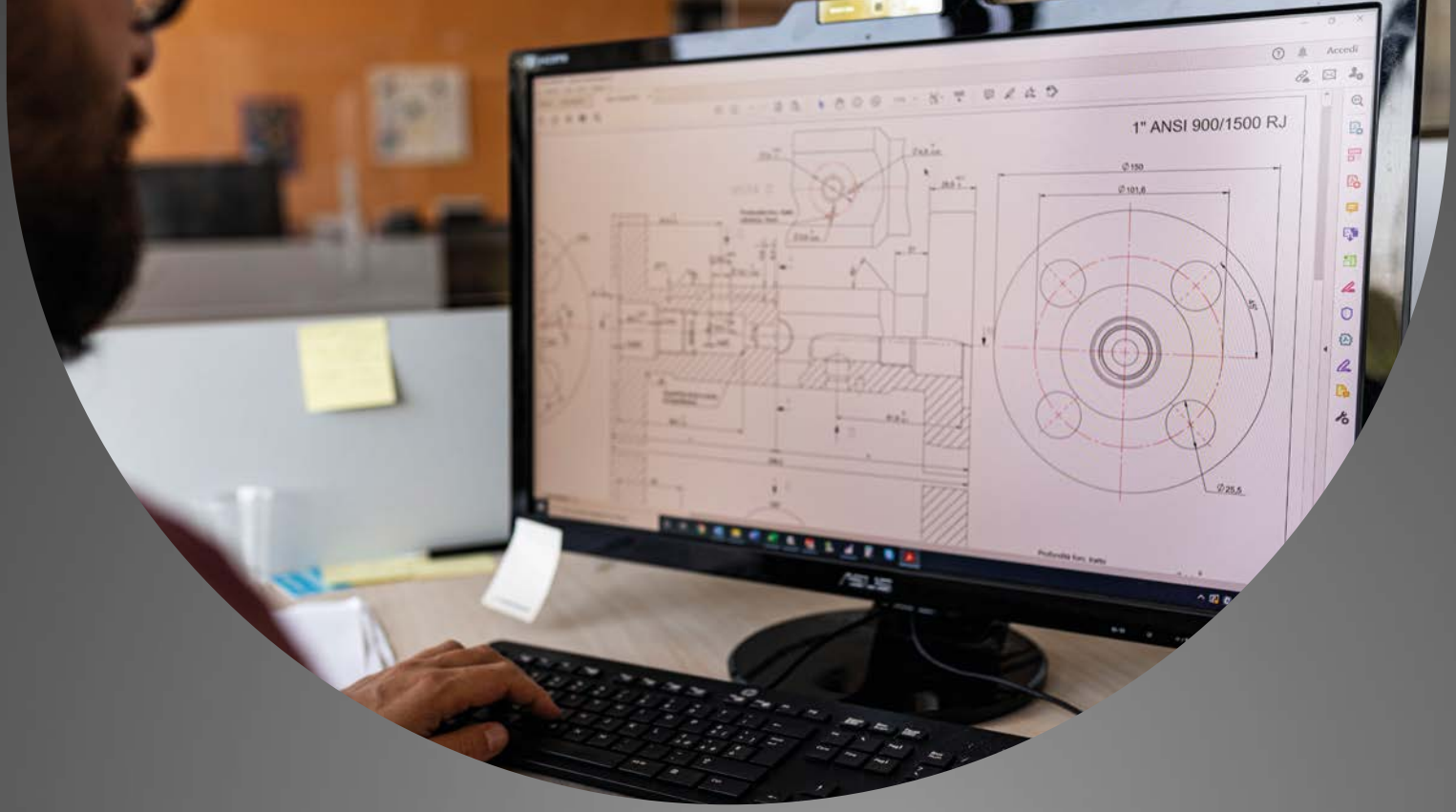
MONOBLOCK
DATABOX

PRODUCT	DESIGN				RATING												FLANGE FACE		CONNECTION IN								
	SB	DB	SBB	DBB	ASME 150	ASME 300	ASME 600	ASME 900	ASME 1500	ASME 2500	6000 PSI	10000 PSI	15.000 PSI (Optional)	API 10000*	API 15000*	Pipe Rating **	RAISED FACE	RING JOINT	1/4" (NPT or Welded)	1/2" (NPT or Welded)	3/4" (NPT or Welded)	1"(NPT or Welded)	1/2" Flang.	3/4" Flang.	1" Flang.	1 1/2" Flang.	2" Flang.
130 - FxF	■										■	■	■	■	■				■	■	■	■					
131 - MXF	■										■	■	■	■	■				■	■	■	■					
140 - FxF		■									■	■	■	■	■				■	■	■	■					
141 - MXF		■									■	■	■	■	■				■	■	■	■					
180 - FxF			■								■	■	■	■	■				■	■	■	■					
181 - MXF			■								■	■	■	■	■				■	■	■	■					
190 - FxF				■							■	■	■	■	■				■	■	■	■					
191 - MXF				■							■	■	■	■	■				■	■	■	■					
135 - BWxF	■															■			■	■	■	■					
136 - SWxF	■															■			■	■	■	■					
145 - BWxF		■														■			■	■	■	■					
146 - SWxF		■														■			■	■	■	■					
185 - BWxF			■													■			■	■	■	■					
186 - SWxF			■													■			■	■	■	■					
195 - BWxF				■												■			■	■	■	■					
196 - SWxF				■												■			■	■	■	■					
132 - SWxSW	■															■			■	■	■	■					
133 - BWxBW	■															■			■	■	■	■					
142 - SWxSW		■														■			■	■	■	■					
143 - BWxBW		■														■			■	■	■	■					
182 - SWxSW			■													■			■	■	■	■					
183 - BWxBW			■													■			■	■	■	■					
192 - SWxSW				■												■			■	■	■	■					
193 - BWxBW				■												■			■	■	■	■					
137 - FLxF	■				■	■	■	■	■	■				■	■		■	■					■	■	■	■	■
147 - FLxF		■			■	■	■	■	■	■				■	■		■	■					■	■	■	■	■
187 - FLxF			■		■	■	■	■	■	■				■	■		■	■					■	■	■	■	■
197 - FLxF				■	■	■	■	■	■	■				■	■		■	■					■	■	■	■	■
138 - FLxFL	■				■	■	■	■	■	■				■	■		■	■					■	■	■	■	■
148 - FLxFL		■			■	■	■	■	■	■				■	■		■	■					■	■	■	■	■
188 - FLxFL			■		■	■	■	■	■	■				■	■		■	■					■	■	■	■	■
198 - FLxFL				■	■	■	■	■	■	■				■	■		■	■					■	■	■	■	■

F = FEMALE THREAD **BW** = BUTT WELD
M = MALE THREAD **SW** = SOCKET WELD
FL = FLANGED

*API size ranges (up to 1" 13/16)
**BW and SW ENDS are determined by the pipe schedule and rating (40.80.80S,160.XXS)
***NACE-compliant materials available upon request.

CONNECTION OUT										VENT			MATERIAL***												SEAL		
1/4" (NPT or Welded)	1/2" (NPT or Welded)	3/4" (NPT or Welded)	1"(NPT or Welded)	1/2" Flang.	3/4" Flang.	1" Flang.	1 1/2" Flang.	2" Flang.	Integral for tubing connection	1/4" NPT-F (Optional)	1/2" NPT-F	Integral for tubing connection	C.S. A105	C.S. A350LF2	SS316/316L Dual Grade	Duplex F51	Superduplex F53	Superduplex F55	Inconel 625	Incoloi 825	Monel 400	Hastelloy C276	Titanio/Titanium	On demand	PTFE	Grafite	On Demand



TAILOR MADE

INDRA "Taylor-Made" refers to the design, engineering, andmanufacturing of Needle Valves and Manifolds that are specifically adapted to the unique requirements of a customeror a particular application.

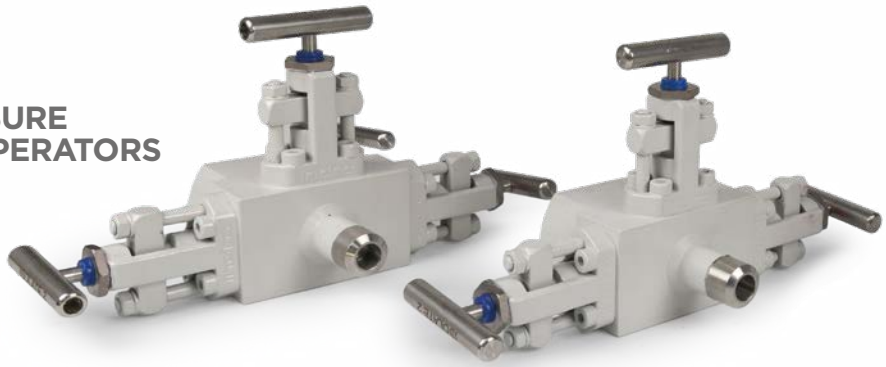
This process involves close collaboration between the customer and our technical team, which unfolds in the following phases:

- **In-depth Analysis of Customer Requirements**
- **Customized Design**
- **Selection of Specific Materials**
- **Special Configurations**
- **Customized Testing**
- **Integrated Automation Solutions**

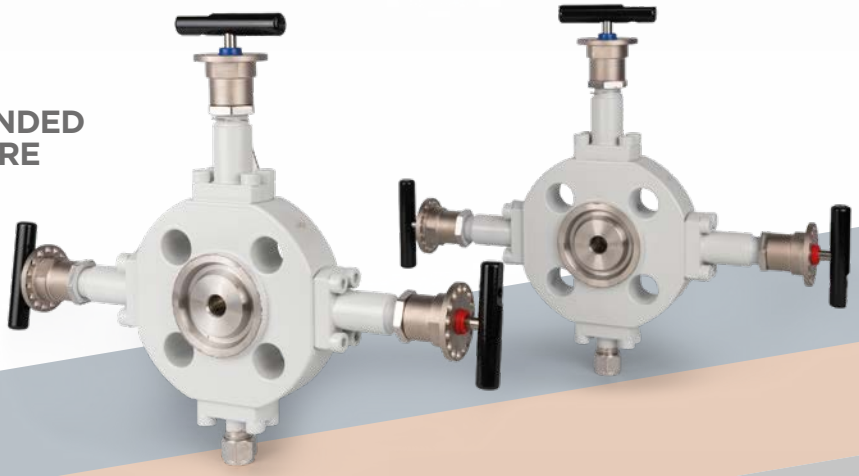
Our tailor-made activity in the production of ball valves represents an advanced and customer-oriented engineering approach, which aims to provide valve solutions that not only meet but often exceed the customer expectations in terms of performance, reliability, and safety.

TAILOR MADE

MONOBLOCK DBB HIGH PRESSURE VALVE – BW X NPT - O.S.& Y. OPERATORS



DBB MONOFLANGE WITH EXTENDED BONNET FOR HIGH TEMPERATURE SERVICE



MONOBLOCK DBB VALVE WITH HUB CONNECTION

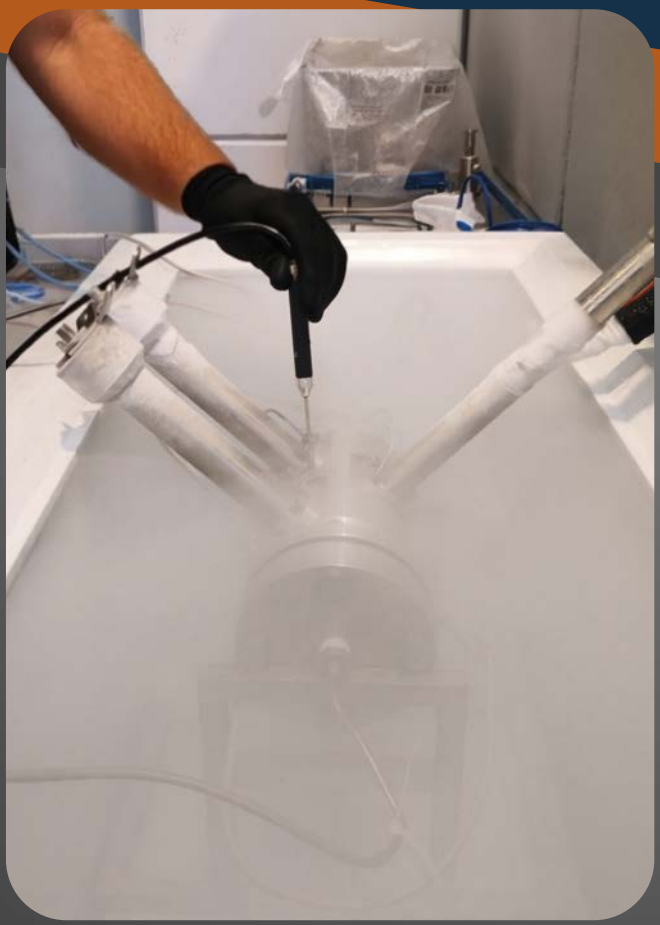
MONOBLOCK DBB DUAL FLANGE VALVE WITH EXTENDED BONNET & INTEGRAL COMPRESSION FITTING FOR TUBING CONNECTION

IN HOUSE TESTS

In-house product testing refers to the practice of Indra in conducting product validation and performance checks within internal facilities, using internal personnel and equipment.

Indra in-house product testing perform the following tests:

- Fugitive Emission
- TAT test
- PR2F Test
- Cryogenic Test
- High Temperature Test
- High Pressure Gas Test
- NDT's (PMI, UT, DP, MP and HRC tests)

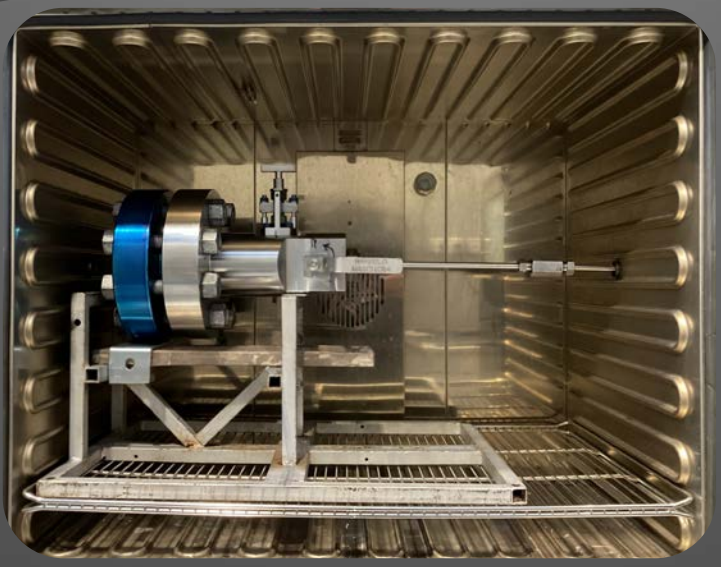


Fugitive Emission Test: Production and Prototype

Climatic Chamber suitable for PR2F and TAT Tests

Cryogenic Test:
Production and Prototype

Bunker suitable for High Pressure Gas Tests:
up to 15.000 PSI



High Temperature Test:
up to 650°C

PRODUCT CERTIFICATIONS

- Fire Safe
  ISO 10497-API 607-API 6FA
- Fugitive Emission
  ISO 15848-1 & 2
- PED 2014/68/EU
- ATEX 2014/34/EU
- CRN Canada (all provinces)
- CU-TR for EAC Countries

OPTIONS
MONOFLANGE/MONOBLOCK

Antitamper Operator
Bolted Bonnet
Bonnet O.S.&Y
Graphite bonnet seals replacement kit
PTFE bonnet seals replacement kit
Locking Device
Quick Locking Device
Padlock
Swivelling Connection
Rating 15.000 PSI
Oxygen Service
Hydrogen Service
Fire Safe Version
Fugitive Emission ISO 15848-1&2
EAC (TR CU/TR EAEU)
Painting Treatment

*Well head application autoclave connection

APPLICATIONS

Our Needle Valves are suitable for a wide range of applications, including:

Oil & Gas

Designed for demanding upstream and midstream services, supporting high pressures and temperatures up to ASME Class 2500 / API 15,000 PSI, with suitability for SIL 4 HIPPS applications.

LNG & Cryogenics

Engineered for liquefaction, storage, and transport systems, ensuring reliable sealing and structural integrity down to −196°C, including resistance to severe thermal cycling.

Hydrogen Energy

Optimized for hydrogen production and distribution, featuring low fugitive emissions per ISO 15848-1 and materials selected for long-term durability in high-pressure hydrogen service.

indra
VALVES - ITALY

INDRA NVM- ENG - 1000 - 04/26

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