

CRANE[®]



SOLVING CUSTOMERS TOUGHEST CHALLENGES

Crane ChemPharma & Energy Business Overview

CRANE[®]

v in www.cranecpe.com



Driven by Crane Values



R. T. CRANE

Crane shares a proud 165-year history of doing business the right way—treating people fairly, dealing honestly and ethically with customers, suppliers, and shareholders, and working hard to meet or exceed the expectations of customers. They also share a fascinating history of innovation dating from the early years of the Industrial Revolution to the current era of technology driven product development and improvement.

While Crane’s businesses, locations and opportunities are very diverse, the ethical standards that have been the hallmark of its way of doing business throughout its history to the present day are rock solid and uniform wherever Crane businesses are operating.

Crane Co. was founded in 1855 by Richard Teller Crane who resolved at that time “to conduct my business in the strictest honesty and fairness, to avoid all deception and trickery, to deal fairly with customers and competitors, to be liberal and just toward employees, and to put my whole mind upon the business.” - These remain Crane’s standards today.

The concept of corporate responsibility—where companies take responsibility not only for profits but also for the impact of their activities on the many different stakeholders with which it interacts—is the foundation on which the company was built and the common thread that ties together all the company does today.



Introduction to Crane Co.

Crane Segments



**AEROSPACE
& ELECTRONICS**



**PAYMENT &
MERCHANDISING
TECHNOLOGIES**



**PROCESS FLOW
TECHNOLOGIES**



**ENGINEERED
MATERIALS**

About Crane Co.

Crane Co. is a diversified manufacturer of highly engineered industrial products. Founded in 1855, Crane provides products and solutions to customers in the aerospace, electronics, hydrocarbon processing, petrochemical, chemical, power generation, automated merchandising, transportation and other markets. The Company has four business segments: Aerospace & Electronics, Engineered Materials, Merchandising Systems, and Process Flow Technologies. Crane has approximately 12,000 employees in North America, South America, Europe, Asia and Australia. Crane Co. is traded on the New York Stock Exchange (NYSE:CR).

Process Flow Technologies

Crane Process Flow Technologies provides highly engineered products including valves, pumps, controls, and water treatment equipment for fluid handling applications worldwide. Its operating units include CRANE ChemPharma & Energy, CRANE Instrumentation & Sampling, CRANE Nuclear, CRANE Building Services, CRANE Pumps & Systems, CRANE Supply, Barksdale Control Products.

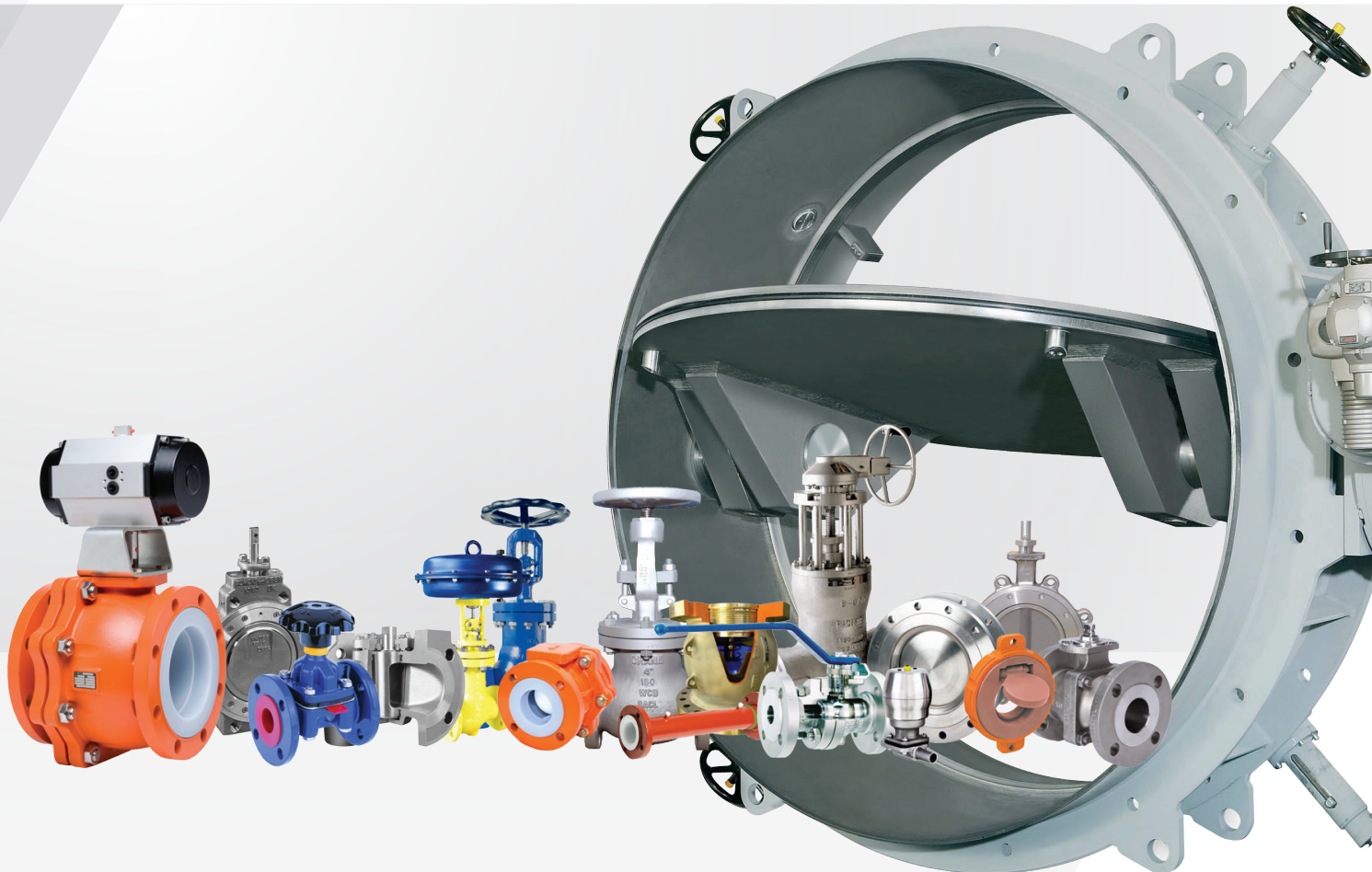
Crane ChemPharma & Energy

Crane CP&E designs and manufactures a variety of high performance products including: highly engineered check valves, sleeved plug valves, lined valves, process ball valves, high performance butterfly valves, bellows sealed globe valves, aseptic and industrial diaphragm valves, multi/quarter-turn valves, actuation, sight glasses, lined pipe, fittings and hoses, and air operated diaphragm and peristaltic pumps. Its trusted brands are in use worldwide in many industries, including Oil & Gas, Oil Refining, Petrochemical, Power Generation, Chemical Processing, Biotechnology, and Pharmaceutical.

Crane Value

Since 1855 Crane has been the world's leading innovator and pioneer of practical flow control solutions addressing and exceeding our customers' needs to enable them to operate better, faster and safer. Crane's heritage of innovation is built upon our dedication to technical design and manufacturing excellence. Our world-class processes utilize the highest quality inputs, and every day, Crane delivers its highly engineered products, outstanding customer service, and support prior and post sales.

- **165 years of Crane Values**
- **Strong brands and innovative products**
- **Commitment to continuous improvement**
- **Focus on quality and safety**
- **Leading technical expertise**
- **Global presence with local support**
- **Training centers in all regions**
- **Personal service attitude**



Global Markets Served on a Local Level



- CHLOR-ALKALI
- PHOSPHATIC FERTILIZERS
- NITROGENOUS FERTILIZERS
- POLYURETHANES
- SULFURIC ACID
- SILICONES
- POLYETHYLENE
- POLYPROPYLENE
- AMONG OTHERS



- ALKYLATION
- HYDROTREATING
- DELAYED COKING
- SULFUR RECOVERY
- HYDROCRACKING
- FLUIDIZED CATALYTIC CRACKING
- COOLING TOWERS
- AMONG OTHERS



Key Manufacturing & Service Locations

AMERICAS: Chihuahua, MX • Cincinnati, OH • Cullman, AL • Edmonton, AB • Gonzales, LA • Marion, NC • Mexico City, MX • Portland, OR • The Woodlands (Houston), TX

EUROPE: Belfast, UK • Cwmbran, UK • Düsseldorf, DE • Kreuztal, DE • Lindau, DE • Székesverhérvár, HU • Muta, SL • Monza, IT • Mulhouse, FR • Waalwijk, NL • Wavre, BE

Global Markets Served on a Local Level



- HP & LP STEAM SYSTEMS
- HP & LP FEED WATER & CONDENSATE SYSTEMS
- FLUE GAS DESULPHURIZATION
- CIRCULATING WATER
- EXTRACTION STEAM & COLD REHEAT LINES
- MAKE-UP WATER
- CHEMICAL & WATER TREATMENT
- AMONG OTHERS



- COMPENDIUM WATER (WFI)
- CIP, SIP, FERMENTATION, SEPARATION, FILTRATION, FILL, FINISH
- HIGH-PURITY PROCESS
- BIO-BLOCK PROCESS
- VACCINES
- BLOOD PLASMA
- AMONG OTHERS

- LIQUEFACTION & REGASIFICATION UNITS
- COMPRESSOR STATION PROTECTION
- GAS TERMINALS
- SULPHUR CONVERSION
- GAS SEPARATION UNITS
- PIPELINE REVERSAL PROTECTION
- AMONG OTHERS
- OFFSHORE PLATFORMS AND FPSOS
- AMONG OTHERS

ASIA: Beijing, PRC • Bekasi, Indonesia • Chennai (Madras), India • Kanagawa, Japan • NINjin, PRC • Pune, India • Satara, India • Shanghai, PRC • Singapore • Suzhou, PRC • Viralmalaj, India

AUSTRALIA: Brisbane, Australia • Kewdale, Australia • Melbourne, Australia • St. Marys, Australia

MIDDLE EAST: Dammam, Saudi Arabia • Dubai, UAE



Product Portfolio

VALVES		VALVE TYPE	BRAND	MATERIALS	SIZES
BALL		LINED	XOMOX®	DUCTILE IRON / PFA CARBON STEEL / STAINLESS STEEL	½" - 12" DN15 - DN300
		METAL SEATED	KROMBACH®	C-STEEL, STAINLESS STEEL WCB, CF8M, SPECIAL ALLOYS	½" - 20" DN15 - DN500
		METAL SEATED	KROMBACH® TUFSEAT® SEVERE SERVICE SERIES	WCB, CF8M, DUPLEX, HASTELLOY®	½" - 16" DN15 - DN400
		METAL SEATED	KROMBACH® TUFSEAT® PERFORMANCE SERIES	WCB, CF8M, DUPLEX, SUPERDUPLEX, HASTELLOY®, MONEL®, INCONEL®	½" - 12" DN15 - DN300
		SOFT SEATED	XOMOX® KROMBACH®	WCB, CF8M, OTHER ALLOYS	½" - 12" DN15 - DN300
		SOFT SEATED	CRANE® STOCKHAM® JENKINS®	BRASS	¼" - 4"
		SOFT SEATED	CRANE® STOCKHAM® JENKINS®	BRONZE	¼" - 3"
		SOFT SEATED	CRANE® STOCKHAM® JENKINS®	CS/SS	¼" - 2"
TRIPLE OFFSET		TRIPLE OFFSET	CRANE® FK-TRIEX	WCB, CF8M, DUPLEX, SUPERDUPLEX, DUPLEX, LCB, WC6, CF3M, INCONEL®, HASTELLOY®, ALLOY 20	6" - 36"

The Right Product for The Right Application

PRESSURE	TEMPERATURE	CONNECTIONS	CHEMICAL	BIOPHARM	OIL & GAS	POWER	REFINING
CLASS 150 PN10 - PN16	-20°F TO 400°F -4°C TO 204°C	FLANGED	●	●			
UP TO CLASS 4500	-325°F TO 1200°F -198°C TO 650°C	FLANGED, SE, SW, AND BW	●		●	●	●
CAST CLASS 150-600 / PN 25-100 FORGED CLASS 150-4500 / PN25-720	-310°F TO 1100°F -190°C TO 600°C	FLANGED, SE, SW, AND BW	●		●		●
CLASS 150-300 / PN 25-40	-40°F TO 800°F -40°C TO 425°C	FLANGED	●		●		●
CLASS 150 & 300 PN10 - PN40	-20°F TO 450°F -4°C TO 232°C	FLANGED	●	●	●	●	●
CLASS 150	-20°F TO 400°F -4°C TO 232°C	THREADED, SOLDER END	●				●
CLASS 150	-20°F TO 400°F -29°C TO 205°C	THREADED, SOLDER END	●				●
2000 CWP	-20°F TO 400°F -29°C TO 205°C	THREADED	●				●
CLASS 150-600	-76°F TO 1022°F -60°C TO 550°C	FLANGED	●		●		●

Product Portfolio

VALVES		VALVE TYPE	BRAND	MATERIALS	SIZES
BSGV		BELLOWS SEALED GLOBE	WTA®	CARBON STEEL, STAINLESS STEEL, LCB, SPECIAL	½"-24" DN 15 - DN 600
		CHLORINE	WTA®	LCB, LCC, WCB, OTHER MATERIALS ON REQUEST	1"-6" DN25 - DN150
		CHANGE-OVER	WTA®	CARBON STEEL, STAINLESS STEEL, LCB, SPECIAL	½"-24" DN 15 - DN 600
		HF ALKYLATION	WTA®	WCB, MONEL M35-1, OTHER MATERIALS ON REQUEST	1/2" - 12"
BUTTERFLY		LINED BUTTERFLY	XOMOX®	DUCTILE IRON / PFA	2" - 24" DN50 - DN600
		DOUBLE OFFSET	KROMBACH®	DIN 1.0038 A283(C)	28" - 136" DN700 - DN3400
		HIGH PERFORMANCE BUTTERFLY	FLOWSEAL®	WCB, CF8M, ALUMINUM-BRONZE, AND DUPLEX STAINLESS STEELS	2" - 48" DN50 - DN1200
		HIGH PERFORMANCE BUTTERFLY	XOMOX®	WCB, CF8M, M35-1 (MONEL), CZ100 (NICKEL), CW6M (HASTELLOY C-276), OTHER ALLOYS	3" - 108" DN80 - DN 2700
		RESILIENT SEATED	CENTERLINE®	BODY: CAST IRON, DUCTILE IRON, AND WCB DISC: DUCTILE IRON, CF8M, AND ALUMINUM-BRONZE	2" - 48" DN50 - DN1200
		TRIPLE OFFSET	KROMBACH®	DIN 1.0425 ASME A515 (60)	DN700 - DN2400 28" - 96"
		TRIPLE OFFSET	CRANE®	WCB AND CF8M	3" - 48" DN80 - DN1200
		TRIPLE OFFSET METAL SEATED	FLOWSEAL®	WCB AND CF8M 1.0619 AND 1.4541	3" - 24" DN80 - DN600

The Right Product for The Right Application

PRESSURE	TEMPERATURE	CONNECTIONS	CHEMICAL	BIOPHARM	OIL & GAS	POWER	REFINING
CLASS 150-900 PN 10-160	-328°F TO 986°F -196°C TO 530°C	FLANGED, BUTT WELDED	●		●	●	●
CLASS 150 & 300 PN40 (OTHER EG. PN63 ON REQUEST)	-40°F TO 400°F -40°C TO 204°C	FLANGED, ONLY T-TYPE BODY	●				
CLASS 150-2500 PN 10-400	-328°F TO 797°F -196°C TO 450°C	FLANGED	●		●	●	●
CLASS 150, 300, 600	20°F TO 500°F -29°C TO 260°C	FLANGED	●		●		●
CLASS 150 PN10 - PN16	-20°F TO 392°F -4°C TO 200°C	WAFER AND LUG	●	●			
2.5 BAR - 25 BAR 36PSI - 350PSI	-20°C TO 200°C, -4°F TO 390°F	FLANGED AND BW	●			●	
CLASS 150, 300 & 600	-100°F TO 900°F -73°C TO 482°C	WAFER AND LUG			●	●	●
CLASS 150, 300 & 600 PN6 - PN100	-425°F TO 1200°F -254°C TO 649°C	WAFER AND LUG	●		●	●	●
CLASS 150 PN10 - PN16	-20°F TO 400°F -4°C TO 204°C	WAFER AND LUG			●	●	●
2.5 BAR - 25 BAR 36PSI - 350PSI	-60°C TO 450°C -76°F TO 840°F	FLANGED AND BW	●			●	
CLASS 150, 300, 600 PN10 - PN100	-76°F TO 1022°F -60°C TO 550°C,	LUG, DOUBLE FLANGED SHORT, DOUBLE FLANGED LONG:	●		●	●	●
CLASS 150, 300 & 600 PN10 - PN100	-325°F TO 1000°F -196°C TO 550°C	LUG AND FLANGED			●	●	●

Product Portfolio

VALVES				
	VALVE TYPE	BRAND	MATERIALS	SIZES
CHECK	LINED CHECK	XOMOX®	DUCTILE IRON/PFA	½" - 12" DN15 - DN300
	NOZZLE CHECK	NOZ-CHEK®	WIDE RANGE OF MATERIALS OF CONSTRUCTION AVAILABLE	2" - 84" DN50 - DN2100
	DUAL PLATE WAFER CHECK	DUO-CHEK®	WIDE RANGE OF MATERIALS OF CONSTRUCTION AVAILABLE	2" - 88" DN50 - DN2200
	NOZZLE-TYPE WAFER CHECK	COMPAC-NOZ®	WIDE RANGE OF MATERIALS OF CONSTRUCTION AVAILABLE	12" - 48" DN 300 - DN1200
	WAFER SWING CHECK	UNI-CHEK®	CAST IRON, CARBON STEEL, CF8M STAINLESS STEEL	2" - 36"
	SWING CHECK	CRANE® STOCKHAM® JENKINS®	BRONZE	½" - 3"
	SWING CHECK	CRANE® STOCKHAM® JENKINS®	IRON	2"-24"
	SWING CHECK	CRANE®	A105N FORGED STEEL	¼"-2"
	SWING CHECK	ALOYCO®	316 SS, 316L SS, ALLOY 20	½"-24"
	SWING CHECK	KROMBACH®	DIN 1.0425 AND 1.0038 ASME 515 (60 AND A283 (C)	DN400-DN1600 16" - 64"
	STOP CHECK	CRANE®	IRON BODY WITH BRONZETRIP	2½" - 10"

The Right Product for The Right Application

PRESSURE	TEMPERATURE	CONNECTIONS	CHEMICAL	BIOPHARM	OIL & GAS	POWER	REFINING
CLASS 150 PN10- PN16,	-20°F TO 400°F -4°C TO 204°C	FLANGED	●	●			
CLASS 150 - 4500 API 6A 2000 - 15,000	-321°F TO 932°F -196°C TO 500°C	FLANGED, BUTT-WELD ENDS, HUBS ENDS AND SPECIALS	●		●	●	●
CLASS 125 - 2500 API 6A 2000 - 10,000	-321°F TO 932°F -196°C TO 550°C	WAFER, LUG, DOUBLE FLANGED AND EXTENDED BODY STYLES	●		●	●	●
CLASS 150 - 1500 API 6A 2000 - 15,000	-58°F TO 410°F -50°C TO 210°C	WAFER AND FLANGED			●	●	●
CLASS 125, 150 & 300	-321°F TO 446°F -196°C TO 230°C	WAFER	●		●	●	●
CLASS 125-300	-20°F TO 400°F -29°C TO 205°C	THREADED, SOLDER END	●				●
CLASS 125-300	-20°F TO 450°F -29°C TO 232°C	THREADED, FLANGED	●				●
CLASS 800 & 1500	-20°F TO 800°F -29°C TO 427°C	THREADED, SOLDER END	●	●	●	●	●
CLASS 150-600	-20°F TO 1000°F -29°C TO 538°C	THREADED, SOCKED WELD, FLANGED	●				●
2.5 BAR - 25 BAR 36PSI -350PSI	-20°F TO 400°F -4°C TO 204°C	FLANGED, BUTT-WELD ENDS	●		●	●	●
CLASS 150 PN10 - PN16	-20°F TO 400°F -4°C TO 204°C	FLANGED	●	●	●	●	●


Product Portfolio

VALVES		VALVE TYPE	BRAND	MATERIALS	SIZES
GATE, GLOBE, CHECK		BOLTED BONNET	CRANE®/STOCKHAM®/ JENKINS®	BRONZE	½" - 3"
		BOLTED BONNET	CRANE®/STOCKHAM®/ JENKINS®	IRON BODY WITH BRONZE TRIP	2" - 24"
		BOLTED BONNET	CRANE®	A105N FORGED STEEL	¼" - 2"
		BOLTED BONNET	ALOYCO®	316 SS, 316L SS, ALOY 20	½" - 24"
		CAST STEEL	CRANE®/ PACIFIC®	WCB, LCB, LCC, WC6, WC9, C5, C12, CF3M, CF8, CF8M	2" - 24" DN 50 - DN600
		BOLTED BONNET	KROMBACH®	CARBON STEEL AND STAINLESS STEEL	DN15-DN600
		HF ACID	PACIFIC®	WCB AND M35-1 (MONEL)	½" - 24" REDUCED & FULL PORT
		PRESSURE SEAL	PACIFIC®	CARBON STEELS, ALLOY STEELS, STAINLESS STEELS, DUPLEX STAINLESS STEELS, SPECIALS (CAST AND FORGED)	2" TO 36" DN50 - DN900
PLUG		LINED PLUG	XOMOX®	DUCTILE IRON / PFA CARBON STEEL / STAINLESS STEEL	½" - 12" DN50 - DN250
		HF ACID	XOMOX®	WCB AND M35-1 (MONEL)	½" - 24" REDUCED & FULL PORT
		SLEEVED PLUG	XOMOX®	WCB, CF8M, M35-1 (MONEL), CZ100 (NICKEL), CW6M (HASTELLOY C-276), OTHER ALLOYS	½" - 24" DN50 - DN600 2 WAY & MULTIPORT PARTIAL & FULLY JACKETED REDUCED & FULL PORT LOW EMISSIONS PACKING
		METAL SEATED	XOMOX®	CARBON STEEL, STAINLESS STEEL SEALS: GRAPHITE TRIM	1" - 8" DN25 - DN200 REDUCED PORT

The Right Product for The Right Application

PRESSURE	TEMPERATURE	CONNECTIONS	CHEMICAL	BIOPHARM	OIL & GAS	POWER	REFINING
CLASS 125-300	-20°F TO 40°F -29°C TO 5°C	THREADED, SOLDER END	●				●
CLASS 125-300	-20°F TO 450°F -29°C TO 232°C	THREADED, FLANGED	●				●
CLASS 800 & 1500	-20°F TO 800°F -29°C TO 427°C	THREADED, SOLDER END	●	●	●	●	●
CLASS 150-600	-20°F TO 1000°F -29°C TO 538°C	THREADED, SOCKED WELD, FLANGED	●				●
CLASS 150, 300 & 600	-20°F TO 800°F -29°C TO 427°C	FLANGED AND BUTT WELD	●		●	●	●
PN10-160	-193°C TO 400°C	FLANGED AND BUTT WELD	●		●	●	●
CLASS 150, 300 & 600 PN10 - PN100	-20°F TO 400°F -29°C TO 204°C	SCREWED END FLANGED END	●		●		●
CLASS 600, 900, 1500, 2500 & 4500	-20°F TO 1500°F -29°C TO 816°C	FLANGED AND BUTT WELD	●		●	●	●
CLASS 150 & 300 PN10 - PN40	-20°F TO 400°F -29°C TO 204°C	FLANGED	●	●			
CLASS 150 & 300 PN10 - PN40	-20°F TO 400°F -29°C TO 204°C	FLANGED	●	●			
CLASS 150, 300, & 600 PN10 - PN100	-20°F TO 600°F -29°C TO 316°C	FLANGED, SCREWED END SOCKET WELD, BUTT WELD	●		●	●	●
CLASS 150 & 300 PN10 - PN40	-20°F TO 650°F -29°C TO 343°C	FLANGED END FULL JACKET	●				

Product Portfolio


VALVES		VALVE TYPE	BRAND	MATERIALS	SIZES
ASEPTIC - HC4		STANDARD 2 WAY FORGED & INVESTMENT CAST	SAUNDERS®	DIN 1.4435, 316L	¼"-6" DN8 - DN150
		ZERO DEADLEG TEE AND POINT OF USE MACHINED BLOCK	SAUNDERS®	DIN 1.4435, 316L	¼"-6" DN8 - DN150
		TANDEM/ACCESS VALVES MACHINED BLOCK OR FABRICATION	SAUNDERS®	DIN 1.4435, 316L	¼"-6" DN8 - DN150
		MACHINED BLOCK MULTIPOINT DIVERTER VALVES	SAUNDERS®	DIN 1.4435, 316L	¼"-6" DN8 - DN150
		MACHINED BLOCK TANK BOTTOM VALVES	SAUNDERS®	DIN 1.4435, 316L	¼"-6" DN8 - DN150
		BIO BLOCK MACHINED CUSTOMISED SOLUTIONS	SAUNDERS®	DIN 1.4435, 316L	¼"-6" DN8 - DN150

* Please contact factory for specifications on our comprehensive line of Saunders diaphragms and sensors

The Right Product for The Right Application

PRESSURE	TEMPERATURE	CONNECTIONS	CHEMICAL	BIOPHARM	OIL & GAS	POWER	REFINING
0-16BAR 232PSI	-20°C TO 175°C 68°F TO 347°F	DIN 11866 PART A, B, & C		●			
0-16BAR 232PSI	-20°C TO 175°C 68°F TO 347°F	DIN 11866 PART A, B, & C		●			
0-16BAR 232PSI	-20°C TO 175°C 68°F TO 347°F	DIN 11866 PART A, B, & C		●			
0-16BAR 232PSI	-20°C TO 175°C 68°F TO 347°F	DIN 11866 PART A, B, & C		●			
0-16BAR 232PSI	-20°C TO 175°C 68°F TO 347°F	DIN 11866 PART A, B, & C		●			
0-16BAR 232PSI	-20°C TO 175°C 68°F TO 347°F	DIN 11866 PART A, B, & C		●			

Product Portfolio


VALVES		VALVE TYPE	BRAND	MATERIALS	SIZES
INDUSTRIAL - IDV		UNLINED	SAUNDERS®	CAST IRON, DUCTILE IRON, CAST STEEL, STAINLESS STEEL, GUN METAL	¼" - 20" DN8 - DN500
		RUBBER LINED	SAUNDERS®	CAST IRON, DUCTILE IRON, CAST STEEL; LININGS: SOFT, HARD, BUTYL & POLYCHLOROPRENE RUBBERS	¾" - 20" DN20 - DN500
		PLASTIC LINED	SAUNDERS®	DUCTILE IRON, STAINLESS STEEL; LININGS: PFA, ETFE, PVDF, PP	½" - 10" DN15 - DN250
		GLASS LINED	SAUNDERS®	CAST IRON GLASS LINED	½" - 8" DN15 - DN200
		FIRE HYDRANT	SAUNDERS®	DUCTILE IRON, GUN METAL	1½" & 2½" DN40 & DN65

* Please contact factory for specifications on our comprehensive line of Saunders diaphragms and sensors

The Right Product for The Right Application

PRESSURE	TEMPERATURE	CONNECTIONS	CHEMICAL	BIOPHARM	OIL & GAS	POWER	REFINING
CLASS 125-150 PN10-16	-22°F TO 347°F -30°C TO 175°C	FLANGED - SCREWED	●			●	●
CLASS 125-150 PN10-16	-22°F TO 230°F -30°C TO 110°C	FLANGED	●			●	●
CLASS 125-150 PN10-16	14°F TO 347°F -10°C TO 175°C	FLANGED	●				●
CLASS 125-150 PN10-16	14°F TO 347°F -10°C TO 175°C	FLANGED	●				●
CLASS 150 PN15	14°F TO 302°F -10°C TO 150°C	FLANGED - SCREWED			●		●

Product Portfolio


PIPE		TYPE	BRAND	SIZES
		PTFE-LINED PIPE AND FITTINGS	RESISTOFLEX® PSI®	1" - 24" DN 25 - DN 600
		PTFE-ATL - LINED PIPE AND FITTINGS	RESISTOFLEX®	1" - 12" DN25 - DN300
		PTFE-LINED PIPE AND FITTINGS	RESISTOFLEX®	1" - 4"
		PFA-LINED PIPE AND FITTINGS	RESISTOFLEX® PSI®	1" - 6"
		PVDF-LINED PIPE AND FITTINGS	RESISTOFLEX® PSI®	1" - 10"
		PVDF-LINED PIPE AND FITTINGS	RESISTOFLEX®	1" - 4"
		PP-LINED PIPE AND FITTINGS	RESISTOFLEX® PSI®	1" - 12"
		PP-LINED PIPE AND FITTINGS	RESISTOFLEX®	1" - 4"
		PTFE-LINED HOSES	RESISTOFLEX®	1" - 8"
		PTFE EXPANSION JOINTS ARMORED PTFE LINED EXPANSION JOINTS	RESISTOFLEX®	1" - 24" DN25 - DN600

The Right Product for The Right Application

PRESSURE	TEMPERATURE	CONNECTIONS	CHEMICAL	BIOPHARM	OIL & GAS	POWER	REFINING
CLASS 150-300* DIN PN10/25	-20°F TO 450°F -29°C TO 230°C	FLANGED	●		●	●	●
CLASS 150-300* DIN PN10/25	-20°F TO 450°F -29°C TO 230°C	FLANGED	●		●	●	●
CLASS 150-300*	-20°F TO 450°F -29°C TO 230°C	CONQUEST® (FLANGELESS)	●		●	●	●
CLASS 150-300*	0°F TO 450°F -18°C TO 230°C	FLANGED	●		●	●	●
CLASS 150-300*	-18°F TO 275°F -27°C TO 135°C	FLANGED	●		●	●	●
CLASS 150-300*	-18°F TO 275°F -27°C TO 135°C	CONQUEST® (FLANGELESS)	●		●	●	●
CLASS 150-300*	0°F TO 450°F -18°C TO 230°C	FLANGED	●		●	●	●
CLASS 150-300*	0°F TO 450°F -18°C TO 230°C	CONQUEST® (FLANGELESS)	●		●	●	●
CLASS 150-300**	0°F TO 450°F*** -18°C TO 230°C	THREADED / FLANGED CAM-LOCK / SANITARY	●	●	●	●	●
FLANGE CONNECTION BUT REDUCED PRESSURE CAPABILITY ANSI 150+, ANSI 300+ DIN PN10/16+	-20°F TO 450°F -29°C TO 230°C	FLANGED	●		●	●	

* 475 psig (33 barg) max | ** Depending on end connection | *** Depending on hose carcass material | + Depending on diameter

Product Portfolio

PIPE		TYPE	BRAND	SIZES
ROTOLINED PIPE & FITTINGS		HDPE-ROTOLINED PIPE AND FITTINGS	RESISTOFLEX LD	"14" - 48" DN350 - DN1200**
		HDPE-ROTOLINED PIPE AND FITTINGS	RESISTOFLEX LD	"14" - 48" DN350 - DN1200**
		HDPE-ROTOLINED PIPE AND FITTINGS	RESISTOFLEX LD	"14" - 48" DN350 - DN1200**
		HDPE-ROTOLINED PIPE AND FITTINGS	RESISTOFLEX LD	UP TO 3,000 GAL**
		HDPE-ROTOLINED PIPE AND FITTINGS	RESISTOFLEX LD	UP TO 3,000 GAL**
		HDPE-ROTOLINED PIPE AND FITTINGS	RESISTOFLEX LD	UP TO 3,000 GAL**

The Right Product for The Right Application

PRESSURE	TEMPERATURE	CONNECTIONS	CHEMICAL	BIOPHARM	OIL & GAS	POWER	REFINING
CLASS 150-300*	-20F TO 180F	FLANGED	●		●	●	●
CLASS 150-300*	0F TO 225F	FLANGED	●		●	●	●
CLASS 150-300*	-20F TO 300F	FLANGED	●		●	●	●
CLASS 150-300*	-20F TO 180F	FLANGED	●		●	●	●
CLASS 150-300*	0F TO 225F	FLANGED	●		●	●	●
CLASS 150-300*	-20F TO 300F	FLANGED	●		●	●	●

*Consult factory for sizes above 48", Minimum flanged nozzle diameter 1.5"

**Consult factory for specific vessel requirements. Any Internal projections must be minimal or removable.

*The pressure ratings for lined piping with ASME B16.5 Class 300 flanges are lower than the true Class 300 ratings due to the plastic raised face gasket sealing surface on lined pipe and fittings

Max. allowable temperature depends on the specific contact chemicals.


Product Portfolio

CONTROLS		TYPE	BRAND	VALVE
CONTROL MONITORS		SWITCH BOXES & VALVE MONITORS	WESTLOCK CONTROLS®	ROTARY
		VALVE CONTROL MONITORS	WESTLOCK CONTROLS®	ROTARY
		POSITIONERS	WESTLOCK CONTROLS®	LINEAR/ROTARY
		SANITARY POSITION AND CONTROL MONITORS	WESTLOCK CONTROLS®	LINEAR
		VALVE NETWORK SOLUTIONS	WESTLOCK CONTROLS®	ROTARY
		DIGITAL CONTROL TRANSMITTERS	WESTLOCK CONTROLS®	LINEAR/ROTARY

The Right Product for The Right Application

CLASSIFICATION	MATERIALS	CHEMICAL	BIOPHARM	OIL & GAS	POWER	REFINING
NON HAZARDOUS NON-INCENDIVE EXPLOSIONPROOF INTRINSICALLY SAFE	ENGINEERED RESIN ALUMINIUM STAINLESS STEEL	●	●	●	●	●
NNON HAZARDOUS NON-INCENDIVE EXPLOSIONPROOF INTRINSICALLY SAFE	ENGINEERED RESIN ALUMINIUM STAINLESS STEEL	●	●	●	●	●
NON-INCENDIVE INTRINSICALLY SAFE EXPLOSIONPROOF	ENGINEERED RESIN ALUMINIUM STAINLESS STEEL	●	●	●	●	●
NON HAZARDOUS NON-INCENDIVE EXPLOSIONPROOF	ENGINEERED RESIN ALUMINIUM	●	●	●	●	●
NON HAZARDOUS NON-INCENDIVE INTRINSICALLY SAFE EXPLOSIONPROOF	ENGINEERED RESIN ALUMINIUM STAINLESS STEEL	●	●	●	●	●
NON HAZARDOUS NON-INCENDIVE INTRINSICALLY SAFE EXPLOSIONPROOF	ENGINEERED RESIN ALUMINIUM STAINLESS STEEL	●	●	●	●	●

Product Portfolio

PUMPS		TYPE	BRAND	MATERIALS
AIR OPERATED DIAPHRAGM PUMPS		METALIC PUMPS SERIES M	DEPA®	ALUMINIUM, CAST IRON, CAST STAINLESS STEEL, HASTELLOY
		NON-METALIC PUMPS SERIES P	DEPA®	POLYPROPYLENE, PTFE, PVDF
		STAINLESS STEEL PUMPS SERIES L	DEPA®	FORGED STAINLESS STEEL 316L, 304
		POWDER PUMPS TYPE DP	DEPA®	ALUMINIUM, CAST IRON, STAINLESS STEEL
		HIGH PRESSURE PUMPS TYPE DB	DEPA®	CAST STAINLESS STEEL
		DRUM PUMPS TYPE DF	DEPA®	ALUMINIUM, CAST STAINLESS STEEL
		DUAL ACTION PUMPS TYPE DZ	DEPA®	ALUMINIUM, CAST IRON, CAST STAINLESS STEEL, POLYPROPYLENE
PERISTALTIC		TYPE IP	ELRO®	NATURAL RUBBER, NBR EPDM, CSM
		TYPE XP	ELRO®	NATURAL RUBBER, NBR, CSM
		TYPE M	ELRO®	NATURAL RUBBER, NBR, CSM
		TYPE GUP/GP	ELRO®	CSM, NBR

The Right Product for The Right Application

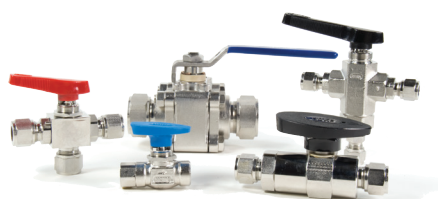
SIZES*	CAPACITY	TEMPERATURE**	PRESSURE	CONNECTIONS	CHEMICAL	BIOPHARM	INDUSTRIAL
½", 1", 1½", 2", 3"	UP TO 44 M³/H	-13° F TO 266°F -25°C TO 130°C	UP TO 8.6 BAR	BSP FEMALE, FLANGE (DIN, ANSI, JIS)	●		●
½", 1", 1½", 2", 3"	UP TO 42 M³/H	-4° F TO 212°F -20°C TO 100°C	UP TO 7 BAR	FLANGE (DIN, ANSI, JIS)	●		●
1", 1½", 2", 3"	UP TO 45 M³/H	-13° F TO 266°F -25°C TO 130°C	UP TO 7 BAR	DIN, HYGIENIC	●	●	
1", 1½", 2", 3", 5"	UP TO 140 M³/H	-13° F TO 266°F -25°C TO 130°C	UP TO 7 BAR	BSP FEMALE, FLANGE (DIN, ANSI)	●		
1", 1½", 2"	UP TO 30 M³/H	-13° F TO 266°F -25°C TO 130°C	UP TO 21 BAR	BSP FEMALE, FLANGE (DIN, ANSI)			●
1"	UP TO 8M³/H	-13° F TO 266°F -25°C TO 130°C	UP TO 7 BAR	BSP FEMALE	●		●
½", 1", 1½", 2"	UP TO 34M³/H	-13° F TO 266°F -25°C TO 130°C	UP TO 7 BAR	BSP FEMALE, FLANGE (DIN, ANSI)			●
1", 1¼", 2, 2½", 3"	UP TO 27 M3/H	-22° F TO 176°F -30°C TO 80°C	UP TO 13 BAR	BSP MALE (SS OR PP), FLANGE	●	●	●
1½", 2½", 4"	UP TO 46 M3/H	-4° F TO 176°F -20°C TO 80°C	UP TO 13 BAR	BSP MALE (SS OR PP), FLANGE	●	●	●
2"	UP TO 20 M3/H	-4° F TO 176°F -20°C TO 80°C	UP TO 2 BAR	C-COUPLING TANK TRUCK, CAMLOCK	●	●	●
2"	9/18 M3/H	-4° F TO 176°F -20°C TO 80°C	UP TO 1.5 BAR	DIN, TANK TRUCK, C-COUPLING	●	●	●

*Sizes are according to specific material

** Max temperatures for housing or hose material, deviations due to specific elastane material has to be considered

Product Portfolio

INSTRUMENTATION





	TYPE	BRAND	SIZE
	BALL	HOKE®	1/8"-3"
	NEEDLE	HOKE®	1/4"-1"
	CHECK	GYROLOK®	1/8"-2"
	RELIEF	HOKE®	1/4"
	METERING	HOKE®	1/16"-1/4"
	CYLINDERS	HOKE®	10ML TO 3.5 GAL.(CYL)
	FLANGED PRODUCTS (MONOFLANGE, DBB & ADAPTERS)	HOKE®	1/2"-3"
	HAND VALVES, MANIFOLDS & DBB VALVES)	HOKE®	1/4"-1/2"
	TUBE FITTINGS	GYROLOK®	1/16"-2" (3-38MM)

The Right Product for The Right Application

MATERIAL	OPTIONS	CHEMICAL	BIOPHARM	OIL & GAS	POWER	REFINING
316SS, 6MO, MONEL®, DUPLEX 2205 SS, SUPER-DUPLEX 2507 SS, INCONEL®, INCOLOY® 825, HASTELLOY® C, TITANIUM, BRASS	2-WAY, 3-WAY, 4-WAY, 5-WAY, HIGH CYCLE AND REMOTE ACTUATION	●		●		●
316SS, 6MO, MONEL®, DUPLEX 2205 SS, SUPER-DUPLEX 2507 SS, HASTELLOY® C, TITANIUM, BRASS	DYNA-PAK® OR GRAPH-LOCK® HIGH TEMPERATURE PACKING, BROAD SELECTION OF END CONNECTIONS, METAL STEM OR METAL STEM WITH PCTFE STEM TIP	●		●		●
316SS, 6MO, MONEL®, HASTELLOY® C, TITANIUM, BRASS	BALL & POPPET TYPE, VARIOUS END CONNECTIONS, VARIOUS SEAT MATERIALS, MULTIPLE CRACK PRESSURES AND HI-FLOW CAPABILITY	●		●		●
316SS, 6MO, HASTELLOY® C, TITANIUM	BROAD SELECTION OF END CONNECTIONS, MANUAL OVERRIDE HANDLE, VARIOUS SEAL MATERIAL OPTIONS	●		●		●
316SS, BRASS	INTEGRAL GYROLOK CONNECTIONS, SHUT-OFF CAPABILITY	●		●		●
316SS, MONEL®, HASTELLOY® C,	SAFETY RELIEF DEVICES, DIP TUBES, CARRYING HANDLE, CAP & COLLAR	●		●		●
316SS, 6MO, MONEL®, DUPLEX 2205 SS, SUPER-DUPLEX 2507 SS, INCONEL®, INCOLOY® 825, HASTELLOY® C, TITANIUM	AVAILABLE IN MULTIPLE SIZES AND CONFIGURATIONS.	●		●		●
316SS, 6MO, MONEL®, DUPLEX 2205 SS, SUPER-DUPLEX 2507 SS, INCONEL®, INCOLOY® 825, HASTELLOY® C, TITANIUM	MOUNTING BRACKETS, ANTI-TAMPER & LOCKING HANDLES, TUBE ADAPTERS	●		●		●
316SS, 6MO, MONEL®, DUPLEX 2205 SS, SUPER-DUPLEX 2507 SS, INCONEL®, INCOLOY® 825, HASTELLOY® C, TITANIUM, BRASS	BROAD SELECTION OF METALLURGY	●		●		●

Product Portfolio

		TYPE	BRAND	SIZE
INSTRUMENTATION		PRESSURE REDUCING REGULATORS	GO REGULATOR®	1/8"-3/4"
		CYLINDER PRESSURE REGULATORS	GO REGULATOR®	1/8"-3/8"
		CHANGE OVER MANIFOLD SYSTEMS	GO REGULATOR®	1/4"
		HEATED VAPORIZING PRESSURE REGULATORS AND SYSTEMS	GO REGULATOR®	1/8"-1/4"
		BACK PRESSURE REGULATORS	GO REGULATOR®	1/8"-3/4"
SAMPLING		GRAB SAMPLING SYSTEM	DOPAK®	ENGINEERED TO DESIGN
		GRAB SAMPLING SYSTEM	TEXAS SAMPLING®	ENGINEERED TO DESIGN

The Right Product for The Right Application

MATERIAL	OPTIONS	CHEMICAL	BIOPHARM	OIL & GAS	POWER	REFINING
316 SS, 316L. MONEL®, HASTELLOY® C, HASTELLOY® B, BRASS, 6MO, DUPLEX, SUPER DUPLEX, TITANIUM, INC 625, INC 825	INLET PRESSURES UP TO 10,000 PSIG CONTROL PRESSURES FROM 1-30 PSIA TO 10,000 PSIG. CV'S FROM .004 TO 1.2 MAX TEMP. UP TO 500°F (650°F AND 1000°F OPTIONAL) 20 MICRON FILTER AT INLET	●		●		●
316 SS, 316L. MONEL®, HASTELLOY® C, HASTELLOY® B, BRASS, 6MO, DUPLEX, SUPER DUPLEX, TITANIUM, INC 625, INC 825	INLET PRESSURES UP TO 6,000 PSIG CONTROL PRESSURES FROM 10 TO 500 PSIG CV'S FROM .025 TO 0.5 MAX TEMPERATURES UP TO 500°F 2 STAGE REGULATORS	●		●		●
316 SS, 316L. MONEL®, HASTELLOY® C, HASTELLOY® B, BRASS, 6MO, DUPLEX, SUPER DUPLEX, TITANIUM, INC 625, INC 825	INLET PRESSURES UP TO 6,000 PSIG CONTROL PRESSURES FROM 10 TO 500 PSIG CV'S FROM .025 TO 0.5 MAX TEMPERATURES UP TO 500°F 2 STAGE REGULATORS	●		●		●
316 SS, 316L. MONEL®, HASTELLOY® C, HASTELLOY® B, BRASS, 6MO, DUPLEX, SUPER DUPLEX, TITANIUM, INC 625, INC 825	INLET PRESSURES UP TO 6,000 PSIG CONTROL PRESSURES FROM 10 TO 1000 PSIG CV'S FROM .025 TO 0.2 MAX TEMPERATURES UP TO 500°F STEAM AND ELECTRICAL HEATED	●		●		●
316 SS, 316L. MONEL®, HASTELLOY® C, HASTELLOY® B, BRASS, 6MO, DUPLEX, SUPER DUPLEX, TITANIUM, INC 625, INC 825	CONTROL PRESSURES FROM 1-30 PSIA TO 10,000 PSIG CV'S FROM .005 TO 3.0 MAX TEMPERATURES UP TO 500°F VAPORIZING VERSION.	●		●		●
316SS, 6MO, MONEL®, DUPLEX 2205 SS, SUPER-DUPLEX 2507 SS, INCONEL®, INCOLOY® 825, HASTELLOY® C	SPRING RETURN HANDLE, LOCKABLE HANDLE, PIPE STAND, SAMPLE COOLER, STEAM STERILIZING CAP, WELDED CONNECTIONS, CONTINUOUS NEEDLE PURGE, FLOW METER, BLOCK VALVE	●		●		●
316SS, 6MO, MONEL®, DUPLEX 2205 SS, SUPER-DUPLEX 2507 SS, INCONEL®, INCOLOY® 825, HASTELLOY® C	SPRING RETURN HANDLE, LOCKABLE HANDLE, PIPE STAND, SAMPLE COOLER, STEAM STERILIZING CAP, WELDED CONNECTIONS, CONTINUOUS NEEDLE PURGE, FLOW METER, BLOCK VALVE	●		●		●

Automation

Crane is your integrated, global partner for assembly, testing and calibration of process valves and automation equipment. We offer a broad range of pneumatic, hydraulic, and electric quarter-turn and linear actuation products to meet your valve automation needs.

Our fully-integrated automation products for bare-stem ball, butterfly, plug, lined, cryogenic and high-temperature valves offer full bus connectivity for consistently superior performance in demanding applications. Crane factories and service centers maintain fully-equipped

valve automation cells including complete machining and fabrication equipment. Our expert staff and state-of-the-art facilities provide comprehensive services that range from valve rebuild to complete redesign with customized assemblies to fit your exact service requirements.

Using a variety of industry standard fieldbus networks, our automated valve packages can connect to central DCS systems and report valve monitoring and control feedback as well as diagnostic information, a function that has become highly desirable in today's process control systems.

	TYPE	BRAND	SIZES	TORQUE	SPECIFICATIONS	APPLICATIONS
AUTOMATION	PNEUMATIC RACK & PINION	REVO®/XOMOX®	1/4" - 48"	DOUBLE ACTING: 30IN-LB - 107,531 IN-LBS SPRING RETURN: 8 IN-LBS - 60,639 IN-LBS	90°-180° ROTATION, CW/CCW SPRING RETURN, SPECIAL CONFIGURATIONS & PE COATINGS	FOR QUARTER-TURN BUTTERFLY, BALL, AND PLUG VALVES
	ELECTRIC	CRANE®	1/2" - 24"	347 IN-LBS - 17,359 IN-LBS	AC VOLTAGE: 24,120 OR 240 1 PHASE, DC VOLTAGE: 12 OR 24, SPECIAL CONFIGURATIONS, ON-OFF MODULATING SERVICE	FOR SMALL TO MEDIUM DIAMETER VALVES IN HIGH-FREQUENCY APPLICATIONS
	SCOTCH YOKE	CRANE®AIR	16" - 48"	SPRING RETURN: 230 IN-LBS - 53,000 FT-LBS, DOUBLE ACTING: 612 IN-LBS - 184,440 FT-LBS	90° ROTATION, SPRING RETURN OR DOUBLE ACTING AND PE COATINGS. TEMPERATURE: -4°F - 176°F	FOR VALVES THAT REQUIRE TORQUE IN EXCESS OF 60,000 IN-LB
	VANE	MATRYX	1/4" - 16"	DOUBLE ACTING 210 IN-LBS - 36,000 IN-LBS	PRESSURE: 40 - 120 PSI, TEMPERATURE: 0°F - 225°F / -17°C - 107°C, EXTERNAL TRAVEL STOPS: +/- 10 AT EACH END OF STROKE, OPERATING MEDIA: AIR OR ANY NON-CORROSIVE GAS	FOR ANY ROTARY OPERATION

Regional Service & Support

Crane is determined to become faster, better and easier to do business with tomorrow, next month, and next year (and in perpetuity). Its business is an extension of its customer's business as Crane is an enabler and a partner working toward the common goal of managing and optimizing its customers' fluid handling needs. Crane ChemPharma & Energy has a global network of Service & Distribution Centers that offer the following capabilities:

Factory-trained Technicians

Service Center personnel receive the same rigorous training and evaluation as the factory personnel who manufacture our valves. In addition, they are specially trained in valve automation and repair. Our experienced personnel can provide design and engineering assistance upon request.

On-site Inventories - Fast Response

We maintain inventories of valves, repair parts, and control accessories on-site to ensure fast response.

Field Repair Service Options

Our technicians are available for field repair and emergency service at your site.

Genuine Quality Parts

All parts used in automation, modification, and repair are factory authorized and fully conform to our manufacturing specifications. Don't accept any third-party parts to maintain your warranty.

Other Services

Other services offered include product specification, engineering support, system design, MRO, spare parts, training, and testing.

Flow Expertise

Crane has remained committed to application expertise since its early days. One such example was demonstrated in early 1940s by its introduction of the Crane Technical Handbook TP410 - long since and still today recognized as the leading guide to principles aiding in the design of fluid-handling systems. This guide has recently been updated and the company has developed a companion website www.TP410.com that offers real-time online calculation capabilities to solve necessary fluid handling equations. By developing specialized expertise over many years, Crane is better positioned to understand the unique needs of each of its focus industries, and devise more effective application solutions.



Project Packages

One Stop Solution

Crane's success is measured and earned by making its customers successful. As an integrated fluid handling solutions provider, Crane is well equipped to deal with complex global projects and all requirements related to those projects. Our extensive product portfolio enables Crane to offer product packages and timely proposals to simplify our customers' supply chain on a local level worldwide, at competitive market pricing.

Whatever the application or project requiring valves for flow control of media that may be demanding, toxic, corrosive, liquid, gas, or slurries, Crane is there to help. From the largest to the simplest, from a single valve to a complex project requiring engineering to get it just right,

Crane has the resources and dedicated staff to provide solutions to meet your daily needs and make your projects and MRO initiatives work.

With its extensive network of worldwide locations the company is able to use its global project management processes to coordinate and link all activities from feasibility through design, procurement, start-up, and final documentation.

Wherever the location of those activities might be, Crane's processes link all teams throughout the world to present its customers with a single face (and interface) – that of Crane.



Quality Assurance & Certifications

At Crane, quality is assured at each stage of our manufacturing process, where safety, reliability and performance cannot be compromised. Our procedures and manufacturing facilities are regularly audited by the industry recognized authorities, resulting in the following certifications, among others:

- ASME 16.34, 16.10, 16.5, 16.25, 16.42
- API 607, 609
- MSS SP – 67, 68, 72
- ISO 9001: 2000 (Det Norske Veritas, TÜV)
- ISO 14001:2005 (TÜV Nord)
- Zertifikat DGRL Certificate PED (TÜV Nord)
- Directive 97/56/EG
- API 6D
- QS - Certificate of Assessment PED (Det Norske Veritas)
- Technical Standards & Safety Authority
- Laboratorio De Pruebas De Equipos Y Materiales
- Welding Procedure Approval (Det Norske Veritas)
- Russian TR
- Water Regulation Advisory Scheme
- Design Assessment (American Bureau of Shipping)
- Konformitätserklärung ATEX - Declaration of Conformity ATEX
- DVGW - Baumuster-Prüfzertifikat Gasversorgung (DVGW Zertifizierungsstelle)
- Certificate of Recognition (Bureau Veritas)
- AD 2000-Merkblatt HP 0/TRD 201/GGVE/ GGVS
- AD 2000-Merkblatt A4
- Shipbuilding approval according to MODE IBV/Mode II
- EN 729-2
- KTA 1401
- TA Luft 2000
- API 622 emissions testing
- EPA Method 21 emissions testing
- CE
- 10CFR50 Appendix B
- ASME N45.2
- ASME N-Stamp N-2 899
- ASME NPT Stamp N-2900
- ASME NCA-4000
- ASME NB Registration
- Repair and Testing of Valves and Actuators in Compliance with 10CFR.50 Appendix B and ASME NQA-1
- "NR"- Field Repair or Replacement of Class 1, 2, & 3 Line Valves and Section III Class 1, 2 and 3 Pressure Relief Devices
- "VR"- Field Repair of ASME Section I, III and VIII PRV
- UL Listed

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