



brands you trust.



Crane ChemPharma and Energy - Overview

www.cranecpe.com



VALVES OF CRANE FITTINGS

CRANE

AND

PLUMBING

BRANCHES IN

VALVES

FITTINGS

MATERIALS

190 CITIES

Driven by Crane Values



R. T. CRANE

Crane shares a proud 160-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



**ENGINEERED
MATERIALS**



**CRANE
MERCHANTISING**



**AEROSPACE
& ELECTRONICS**



**FLUID
HANDLING**

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 Fluid Handling. Crane has approximately 11,000 employees in North America, South America, Europe, Asia and Australia. Crane Co. is traded on the New York Stock Exchange (NYSE:CR).

The Fluid Handling Segment

CRANE Fluid Handling 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 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.

Why We Win

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.

- 160 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, MEX • CINCINNATI, OH • CONROE, TX • CULLMAN, AL • EDMONTON, AB • GONZALES, LA • LONG BEACH, CA • MARION, NC • MEXICO CITY, MEX • PORTLAND, OR • THE WOODLANDS (HOUSTON), TX

EUROPE: BELFAST, UK • CWMBRAN, UK • DÜSSELDORF, DE • KREUZTAL, DE • LINDAU, DE • SZÉKESVERHÉRVÁR, HU • MUTA, SL • MAXDORF, DE • MONZA, IT • MOSCOW, RU • MULHOUSE, FR • WAALWIJK, NL • WAVRE, BE • WR. NEUDORF, AT

ASIA: BEIJING, PRC • BEKASI, INDONESIA • CHENNAI (MADRAS), INDIA • KANAGAWA, JAPAN • NINJIN, PRC • PUNE, INDIA • SATARA, INDIA • SHANGHAI, PRC • SINGAPORE • SUZHOU, PRC • VIRALIMALAI, INDIA

AUSTRALIA: BRISBANE, AUSTRALIA • KEWDALE, AUSTRALIA • MELBOURNE, AUSTRALIA • ST. MARYS, AUSTRALIA

MIDDLE EAST: AL KHOBAR, SAUDI ARABIA • DUBAI, UAE

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

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



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

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 |
| | | 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" |
| 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" |

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 | ● | | ● | ● | ● |
| 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 150-900 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 | ● | | ● | | ● |

Product Portfolio

| VALVES | | VALVE TYPE | BRAND | MATERIALS | SIZES |
|-----------|---|----------------------------|---------------------------------|--|------------------------------|
| BUTTERFLY |  | LINED BUTTERFLY | XOMOX® | DUCTILE IRON / PFA | 2" - 24" DN50 - DN600 |
| | | DOUBLE OFFSET | KROMBACH® | DIN 1.0038 A283(C) | DN700 - DN3400 28" - 136" |
| | | HIGH PERFORMANCE BUTTERFLY | FLOWSEAL® | WCB, CF8M, ALUMINUM-BRONZE, AND DUPLEX STAINLESS STEELS | 2" - 48" |
| | | HIGH PERFORMANCE BUTTERFLY | XOMOX® | WCB, CF8M, M35-1 (MONEL), CZ100 (NICKEL), CW6M (HASTELLOY C-276), OTHER ALLOYS | 2" - 48" DN50 - DN1200 |
| | | 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 METAL SEATED | FLOWSEAL® | WCB AND CF8M 1.0619 AND 1.4541 | 3" - 24" DN80 - DN600 |
| 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 BRONZE TRIP | 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 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 | -325°F TO 1000°F -198°C TO 538°C | LUG AND FLANGED | | | ● | ● | ● |
| 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 4000°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 |
| | | METAL SEATED | XOMOX® | CARBON STEEL, STAINLESS STEEL <u>SEALS</u> : GRAPHITE TRIM | 1" - 8" DN25 - DN200 REDUCED 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 |

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 PN10 - PN40 | -20°F to 650°F -29°C to 343°C | FLANGED END FULL JACKET | ● | | | | |
| CLASS 150, 300, & 600 PN10 - PN100 | -20°F to 600°F -29°C to 316°C | FLANGED, SCREWED END SOCKET WELD, BUTT WELD | ● | | ● | ● | ● |

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 |
| 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 |
|--------------------------|----------------------------------|--------------------------|----------|----------|-----------|-------|----------|
| 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 | | ● | | | |
| 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 |
|------------|--|--|----------------------|----------------------------|
| LINED PIPE |  | 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

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

The Right Product for The Right Application

| SIZES | CAPACITY | TEMPERATURE* | CONNECTIONS | CHEMICAL | BIOPHARM | INDUSTRIAL |
|---------------------|--------------|-----------------------------|-----------------------------------|----------|----------|------------|
| ½", 1", 1,5", 2" | UPTO 7BAR | -25°C to 130°C | BSP FEMALE, FLANGE (DIN, ANSI) | ● | | ● |
| ½", 1", 1,5", 2" | UPTO 7BAR | -20°C to 100°C | BSP FEMALE, FLANGE (DIN, ANSI) | ● | | ● |
| ½", 1", 1,5", 2" | UPTO 7BAR | -25°C to 130°C | BSP FEMALE, FLANGE (DIN, ASME) | ● | ● | |
| 1,5", 2", 3", 5" | UPTO 7BAR | -25°C to 130°C | BSP FEMALE, FLANGE (DIN, ANSI) | ● | | |
| 1", 1,5", 2" | UPTO 21 BAR | -25°C to 130°C | BSP FEMALE, FLANGE (DIN, ANSI) | | | ● |
| 1" | UPTO 7 BAR | -25°C to 130°C | BSP FEMALE | ● | | |
| ½", 1", 1,5", 2" | UPTO 7 BAR | -25°C to 130°C (60°C PP) | BSP FEMALE, FLANGE (DIN, ANSI) | | | ● |
| 1", 1¼", 2, 2½", 3" | UPTO 27 m³/h | -30°C to 80°C | BSP MALE (SS OR PP), FLANGE | | | |
| 1½", 2½", 4" | UPTO 46 m³/h | -20°C to 80°C | BSP MALE (SS OR PP), FLANGE | | | |
| 2" | UPTO 20 m³/h | -20°C to 80°C | C-COUPLING TANK TRUCK, CAMLOCK | | | |
| 2" | 9/18 m³/h | -20°C to 80°C | DIN, TANK TRUCK, C-COUPLING | | | |

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

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 Option

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 ASSESSEMENT (AMERICAN BUREAU OF SHIPPING)
- KONFORMITÄTSEKTLÄRUNG 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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