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MCKENZIE VALVE & MACHINING

GENERAL PURPOSE VALVES

Load / Unload Valves

1", 2" and 3" Ball Valves | Flange/Threaded Options | Carbon and Stainless Steel



- > FULL PORT DESIGN FOR OPTIMAL LOADING EFFICIENCY
- > CONVENIENT 1/4 TURN (OPEN/CLOSE) OPERATION
- > CONVERTIBLE TO CW OR CCW ACTUATION
- > TEFLON SEATS COMPATIBLE WITH NEARLY ALL COMMODITIES

| SKU # Brief Descriptior |
|-------------------------|
|-------------------------|

UFFRFP Flanged x Flanged Full Port Ball Valve
UFR Flanged x Threaded Full Port Ball Valve
USR Threaded x Threaded Full Port Ball Valve
UTFR AAR Tongue x ANSI Flange Full Port Ball Valve
UTR AAR Tongue x Threaded Full Port Ball Valve
UFD Flanged x Quick Disconnect Full Port Ball Valve

 Proven reliability for safe and efficient loading and unloading



W ottom **Outlet Valves**

4" Ball Valve in Standard and Low Profile Designs | Carbon and Stainless Steel | Steam Jackets



- > FULL PORT DESIGN FOR OPTIMAL UNLOADING EFFICIENCY
- > CONVENIENT 1/4 TURN (OPEN/CLOSE) OPERATION
- > CONVERTIBLE TO CW OR CCW ACTUATION
- > AVAILABLE IN NUMEROUS STEAM JACKET CONFIGURATIONS
- > PURE TEFLON SEATS COMPATIBLE WITH NEARLY ALL COMMODITIES
- > ADAPTERS AVAILABLE FOR ALL DISENGAGING HANDLE DESIGNS

SKU # Brief Description

UFPFR 4" Full Port Low Profile BOV

UFPFRG 4" Full Port Standard Height Profile BOV

UFIRA 4" Internal BOV

- Design with the longest service history in the industry



GENERAL PURPOSE VALVES

ressure Relief Valves

75 PSIG with High and Low Flow Options | Carbon and Stainless Steel





- > INTERNAL STYLE PROVIDES LOW PROFILE INSTALLATION
- > SUPERIOR RELIABILITY
- > MAXIMUM FLOW RATES
- > REPEATABLE SET PRESSURES
- > EASY MAINTENANCE

- SKU # Brief Description
- SRVHF 75 PSIG High Flow SRV
- SRVLF 75 PSIG Low Flow SRV

- Reliable protection for pressure surges
- 21,000 or 1,200 SCFM flow options for 117 GP car requirements



GENERAL PURPOSE VALVES

acuum Relief Valves

-.75 to -4 PSIG | Flange/Threaded Mounting | Stainless Steel





- > COMPACT, LOW PROFILE
- > WAVE SPRING TECHNOLOGY **GIVES A MORE CONSISTENT SEAL**
- > DESIGNED TO BE LEAK **TESTED WHILE ON CAR**
- > CORROSION RESISTANT STAINLESS STEEL

SKU# **Brief Description**

Vacuum Relief Valves

- Reliable protection against implosion
- Compact body with innovative, robust, long lasting and wave spring design
- Can be leak tested on the car without special fixtures



VRV



GENERAL PURPOSE TANK CAR PARTS

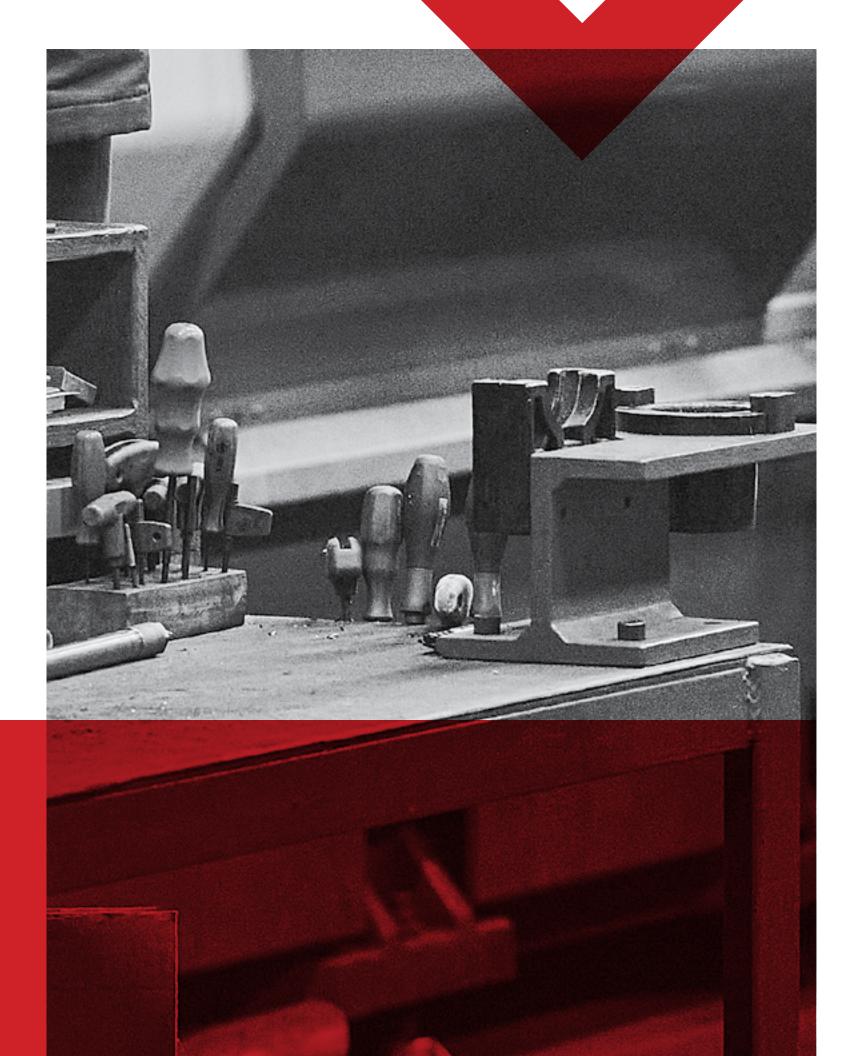
Valve Closures & Fittings | Carbon and Stainless Steel, Aluminum



- > CAP: OPTIONAL CHAIN LENGTHS
- > NOZZLE: FLAT FACE, RAISED FACE AND FLAT FACE WITH LARGE OPENING
- > Nozzle: 7.75" Bolt Circles, 9" BOLT CIRCLES AND 9.5" BOLT CIRCLES

- Materials Available: Ductile Iron, Carbon Steel, 316 SS, Corrosion Tested 316 SS, Aluminum

| SKU# | Brief Description |
|------|-----------------------|
| ОС | Bottom Outlet Caps |
| ON | Bottom Outlet Nozzles |



GENERAL PURPOSE TANK CAR PARTS

Valve Closures & Fittings | Carbon and Stainless Steel, Nitronic 60, Aluminum



- > 1/8", 3/4", 1", 2" AND 3" SIZES
- > CHAINS OF CARBON STEEL & 316 STAINLESS STEEL - CUT TO LENGTH
- Materials Available: Carbon Steel, 316 Stainless Steel, 416 Stainless Steel, Nitronic 60, Aluminum

SKU# **Brief Description**

PG Plug & Chain Assemblies





Fabricated Steel Construction | Carbon and Stainless Steel, Hybrid

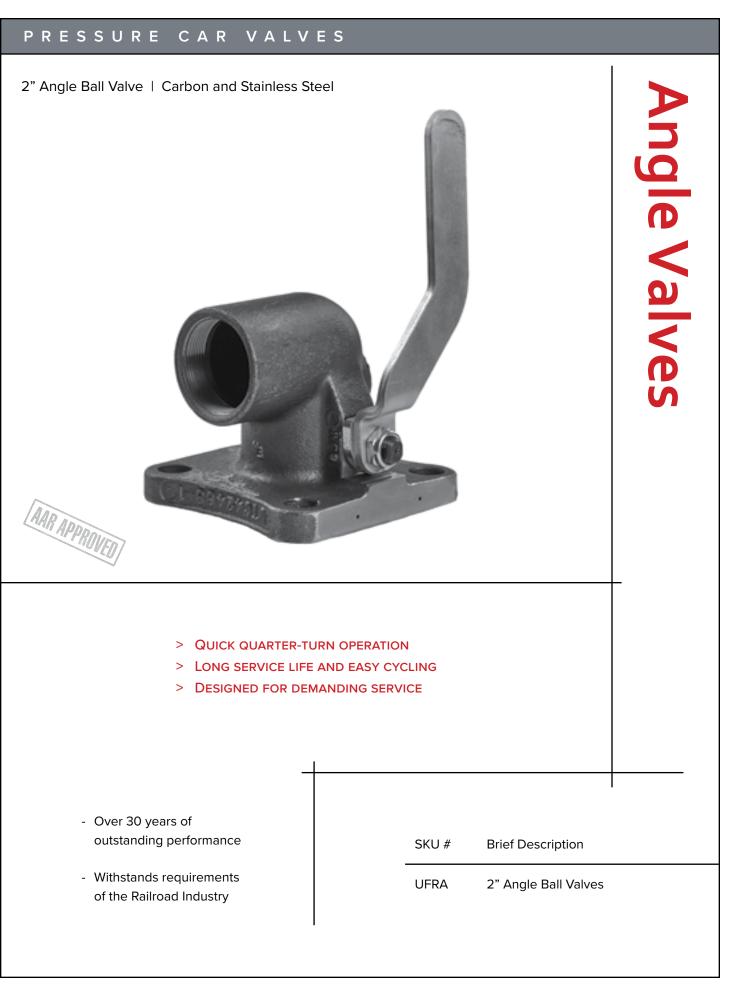


- > DESIGNED TO MEET UNIQUE AND SPECIFIC APPLICATION REQUIREMENTS
- > MADE FROM AAR-APPROVED MATERIALS
- 6 or 8 Bolt Design
- Offers long-term durability and corrosion resistance
- Carbon steel/stainless steel option for cost reduction
- Plasma cut and welded through an automated process

SKU# **Brief Description**

MWC Fabricated Manway Covers





xcess Flow Check Valves

PRESSURE CAR VALVES

3/4", 2" and 3" | Carbon and Stainless Steel







> NON-GALLING ASSEMBLIES KEEP VALVES SLIDING EASILY WITHOUT BINDING

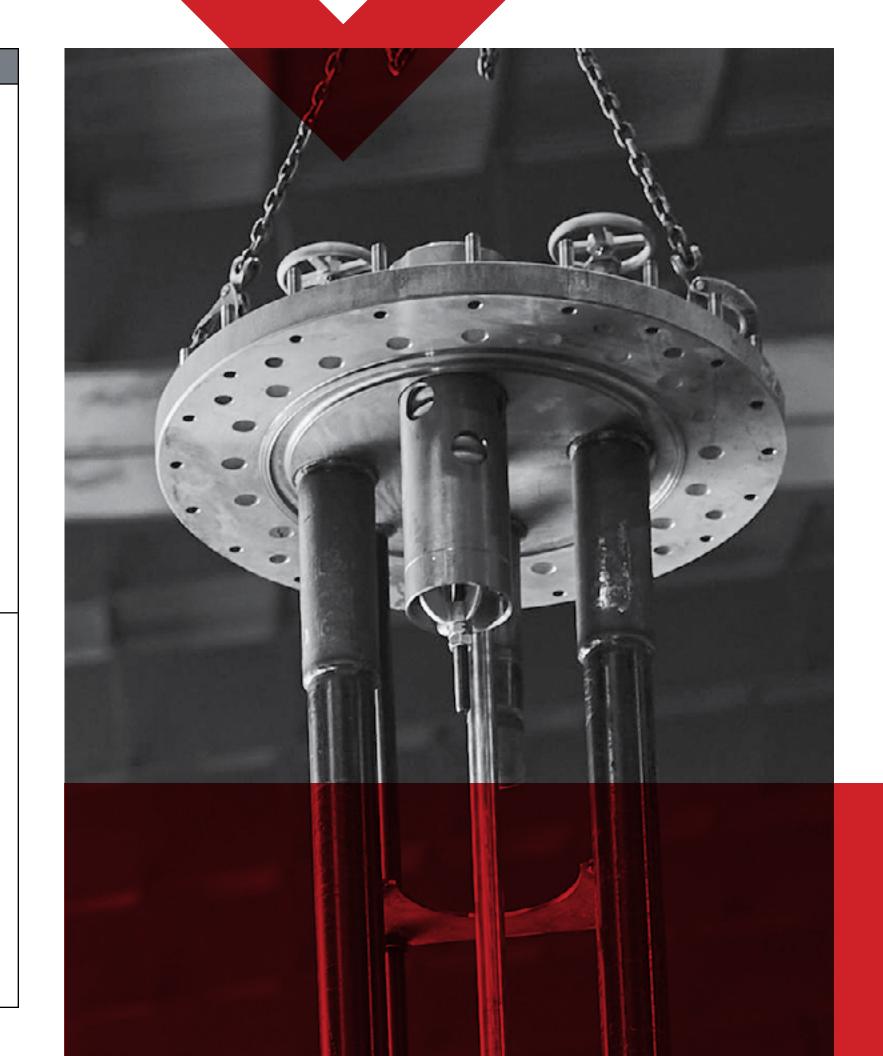
SKU#

Brief Description

EFCV

Excess Flow Check Valves

- Available for sample line, liquid lines and vapor line styles
- Engineered to provide reliable, high flow rates in conjunction with high-flow disturbance sensitivity to help operators achieve safe operation and faster unloading times
- Pressure bypass enables rapid reopening and continued operation after cause of excess flow is corrected



Thermometer Wells

Thermowell | Carbon and Stainless Steel



> PROVIDE NON-CONTACT ACCESS TO THE LADING FOR
TEMPERATURE MEASUREMENT USING A THERMOMETER OR
THERMOCOUPLE PROBE

SKU # Brief Description

TW Thermometer Well

- Body materials include carbon steel and 316 stainless steel
- Styles include flange or threaded

PRESSURE CAR VALVES

Sampling Valve | Stainless Steel





Needle Valves



> KEEPS PRESSURE-CAR OPERATORS SAFE BY ALLOWING SAMPLING OF THE LADING WITHOUT OPENING LARGER TRANSFER VALVE

- Stem and body constructed of stainless steel
- Quality construction, durability and reliability

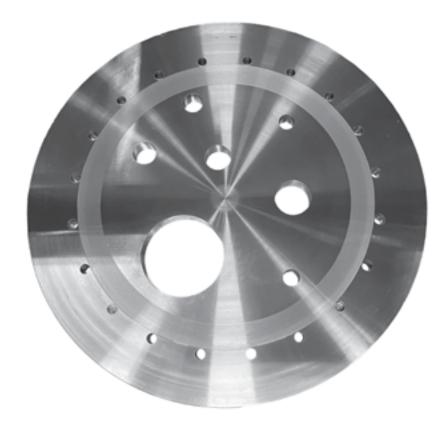
SKU # Brief Description

SNV Samples (Needle) Valves

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Bolted Manway Pressure Plate | Carbon and Stainless Steel



ttings Flanges

- > 18", 20", 22", AND 24" DIAMETER SIZE OPTIONS
- > MAXIMUM PRESSURE: DESIGN DEPENDENT
- > MAXIMUM TEMPERATURE: >500F
- > VALVE MOUNTING PATTERNS: WITH OR WITHOUT GROOVES
- > COUNTERBORE / COUNTERSUNK HOLES
- Made from AAR-approved materials
- Offers long-term durability and corrosion resistance

- > THROUGH HOLES
- > UNC THREADED HOLES
- > NPT THREADED HOLES
- > Nozzle Mounting Bolt Circle
- > DRAIN BOLT CIRCLE
- > Housing Bolt Circle
- > LOCALIZED AARH FLANGE FINISHES

| Manufactured to customer designs for | |
|--------------------------------------|--|
| general purpose and pressure cars | |

SKU# **Brief Description**

FF Bolted Manway Covers/Plates

Top-Transfer Angle Valve



- > AAR E-207056 (SERVICE TRIAL)
- > 2 PIECE BODY
- > SS, CS, DI BODY CONSTRUCTION
- > CS, SS, NITRONIC 60 PLUGS
- > O-RING OPTIONS AVAILABLE
- > LIVE LOADED ADJUSTABLE PACKING
- > EASY INTERNAL INSPECTION
 DURING CLEANING
- > SEAT TEST 500PSI
- > HYDRO TEST 900PSI



- > SS & CS BODY CONSTRUCTION
- > O-RING MATERIAL TO YOUR SPECIFICATION
- > 8" BOLT CIRCLE WITH TONGUE AND GROOVE MOUNTING
- > INTERNAL SPRING DESIGN ALLOWS FOR LOW PROFILE INSTALLATION
- > REPEATABLE SET PRESSURES
- > REFINED DESIGN FOR EASY
 CLEANING AND REPAIR
- > 280.5 PSI (APPROX CALC 23,700 SCFM)
- > 300 PSI (APPROX CALC 25,300 SCFM)
- > 330 PSI (APPROX CALC 23,700 SCFM)



Internal PRV

GENERAL PURPOSE VALVES IN APPROVAL PROCESS

External PRV



- > LOW PROFILE EXTERNAL DESIGN
- > OPERATING COMPONENTS NOT IN CONTACT WITH COMMODITY
- > O-RING MATERIAL TO YOUR SPECIFICATION
- > 6.25" BOLT CIRCLE WITH TONGUE
 AND GROOVE MOUNTING
- > REPEATABLE SET PRESSURES
- > 75 PSI (APPROX CALC 10,000 SCFM)
- > 165 PSI (APPROX CALC 22,000 SCFM)

> LOWEST OPERATING TORQUE IN THE INDUSTRY

- > API 607 FIRE RATED
- > FULL PORT DESIGN FOR
 OPTIMAL UNLOADING EFFICIENCY
- > CONVENIENT 1/4 TURN (OPEN/CLOSE) OPERATION
- > CONVERTIBLE TO CW OR CCW ACTUATION
- > AVAILABLE IN NUMEROUS
 STEAM JACKET CONFIGURATIONS
- > TEFLON SEATS COMPATIBLE
 WITH NEARLY ALL COMMODITIES



Bottom Outlet Valve

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