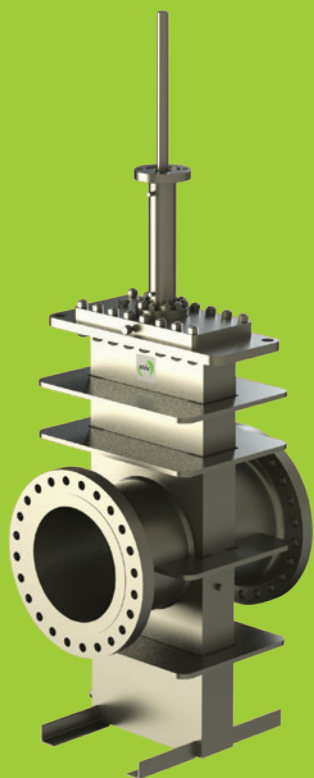




one brand ∞ infinite trust



MV7-F ▶
GATE VALVE
FORGED BODY

▲
MV7-P
GATE VALVE
FABRICATED BODY



MV7-C ▶
GATE VALVE
CAST BODY



API 6D THROUGH-CONDUIT
GATE VALVES

COMPANY PROFILE

ONE BRAND, INFINITE TRUST

MIR VALVE is a top-tier manufacturer offering the complete range of **ball and gate valves** serving the international oil & gas, petrochemical, refining and power industries. In less than 7 years, we have manufactured **over 9,000 MIR valves which are today in service** in onshore, offshore and subsea installations worldwide. Our technology and quality are proven in service.

With over 150 employees and a **plant** located in **Kuala Lumpur**, (Shah Alam Malaysia), and two **sales offices** in **Jakarta**, Indonesia and **Seoul**, Korea, we are **culturally in-tune** with all markets.

Our Quality Management System and products are certified to all standards including **ISO 9001, ISO 14001, OHSAS18001, API 6D, API 6DSS, API Spec Q1, APIQR, CE-PED, CE-ATEX, EN 14141, IEC 61508**. We are an approved manufacturer with over 100 major oil and gas companies.

We comply and meet the most stringent customers' requirements for the qualification of our products through extensive testing, such as firesafe, low temperature down to -125°C, fugitive emission, endurance, high pressure gas, TAT and others, QC inspection at our supply sources and 100% incoming inspection for all components and materials arriving to our plant.

We have extensive coverage and representation in the global markets through our **sales agent network in over 35 locations worldwide and growing**.

MIR VALVE aspires to **deliver on-time world-class quality products** managed by a highly experienced management team, continued investment, customer focus and continuous alignment to the dynamics driving the global markets.

WE LISTEN AND LEARN FROM OUR CUSTOMERS, EMPLOYEES AND EXPERIENCE

Malaysia Operations, Shah Alam, Kuala Lumpur, 140,000 sq.ft.



OUR VALVES ARE SUITABLE FOR ONSHORE, OFFSHORE AND SUBSEA APPLICATIONS

INDUSTRIES	APPLICATIONS	
<ul style="list-style-type: none"> • Oil & Gas • Exploration & Production • Pipelines & Processing Plants • Refining & Petrochemical • Power • Metering and Gate Stations • FPSO & Shipbuilding • Onshore Receiving Terminals 	<ul style="list-style-type: none"> • Blow-down • ESD • Riser • Isolation • HIPPS 	<ul style="list-style-type: none"> • Subsea • High Temp. $\geq +200^{\circ}\text{C}$ • Low Temp. down to -160°C • Sequencing service • Abrasive fluids

ONSHORE



OFFSHORE



SUBSEA



API 6D THROUGH-CONDUIT GATE VALVES
MV7-P MV7-F MV7-C

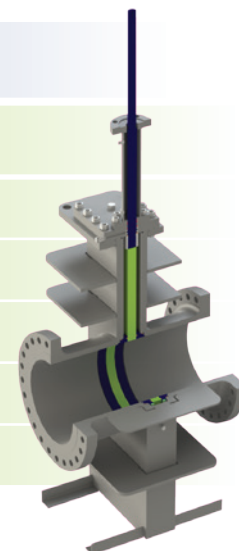
PRODUCT RANGE MV7-P • MV7-F • MV7-C



MV7-P GATE VALVE - FABRICATED BODY

SERVICE	ASME CL. 150-600	ASME CL. 900	ASME CL. 1500	ASME CL. 2500
Standard	2"-60"	2"-48"	2"-36"	N/A
Low temp. down to -160°C	N/A	N/A	N/A	N/A
Subsea	N/A	N/A	N/A	N/A
Underground	2"-60"	2"-48"	2"-36"	N/A
High temp. +220°C to +450°C	N/A	N/A	N/A	N/A

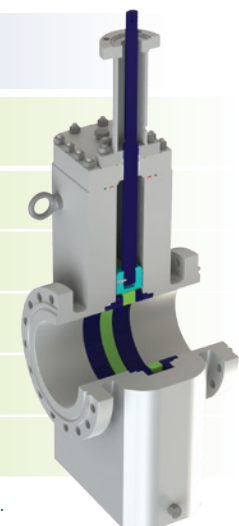
- This body construction is typically used for **low pressure** as well as **standard** services and applications. It is the **most popular design** due to competitive cost and fast delivery.



MV7-F GATE VALVE - FORGED BODY

SERVICE	ASME CL. 150-600	ASME CL. 900	ASME CL. 1500	ASME CL. 2500
Standard	2"-16"	2"-16"	2"-16"	2"-16"
Low temp. down to -160°C	2"-16"	2"-16"	2"-16"	2"-16"
Subsea	2"-16"	2"-16"	2"-16"	2"-16"
Underground	2"-16"	2"-16"	2"-16"	2"-16"
High temp. +220°C to +450°C	2"-16"	2"-16"	2"-16"	2"-12"

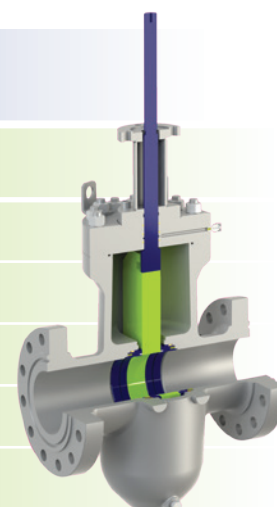
- This body construction is ideal for **high pressure** as well as special services and applications (**low or high temperature and subsea**). It has size limitations up to 16", but it offers the **highest quality of material** and is available in a wider range of materials.



MV7-C GATE VALVE - CAST BODY

SERVICE	ASME CL. 150-600	ASME CL. 900	ASME CL. 1500	ASME CL. 2500
Standard	2"-60"	2"-48"	2"-36"	2"-16"
Low temp. down to -160°C	2"-36"	2"-30"	2"-24"	2"-16"
Subsea	2"-36"	2"-30"	2"-24"	2"-16"
Underground	2"-60"	2"-48"	2"-36"	2"-16"
High temp. +220°C to +450°C	2"-36"	2"-30"	2"-24"	2"-12"

- This body construction is typically used for **high pressure** as well as special services and applications (**low or high temperature and subsea**).



Other sizes and pressure classes available upon request

DESIGN FEATURES

DESIGN FEATURES	MV7-P GATE VALVE FABRICATED BODY	MV7-F GATE VALVE FORGED BODY	MV7-C GATE VALVE CAST BODY
› API 6D Design and Construction	STANDARD	STANDARD	STANDARD
› Face-To-Face Dimensions to API 6D and ASME B16.10	STANDARD	STANDARD	STANDARD
› Independent Stem and Obturator (Slab)	STANDARD	STANDARD	STANDARD
› Floating Seats	STANDARD	STANDARD	STANDARD
› Primary Metal Secondary Soft	STANDARD	STANDARD	STANDARD
› Metal-To-Metal Seats	OPTIONAL	OPTIONAL	OPTIONAL
› O-Ring Type Seals	STANDARD	STANDARD	STANDARD
› Polymeric Lip-Seals	OPTIONAL	OPTIONAL	OPTIONAL
› Self-Relieving Seats	STANDARD	STANDARD	STANDARD
› Full or Reduced Bore	AS REQUESTED	AS REQUESTED	AS REQUESTED
› Flanged Ends / Welded Ends / Hub Ends	AS REQUESTED	AS REQUESTED	AS REQUESTED
› Transition Pups For Welded Ends Valves	OPTIONAL	OPTIONAL	OPTIONAL
› Stem Backseat (API 6D)	STANDARD	STANDARD	STANDARD
› Double Body Barrier	STANDARD	STANDARD	STANDARD
› Triple Stem Barrier	STANDARD	STANDARD	STANDARD
› Vent Plug	STANDARD	STANDARD	STANDARD
› Bleed Valve	OPTIONAL	OPTIONAL	OPTIONAL
› Drain Plug	STANDARD	STANDARD	STANDARD
› Stem Injection Fitting	STANDARD	STANDARD	STANDARD
› Seat Injection Fitting	OPTIONAL	OPTIONAL	OPTIONAL
› Seat Pocket Overlay	OPTIONAL	OPTIONAL	OPTIONAL
› Seal Areas Overlay	OPTIONAL	OPTIONAL	OPTIONAL
› Wetted Parts Overlay	N/A	OPTIONAL	OPTIONAL
› Locking Device	OPTIONAL	OPTIONAL	OPTIONAL
› Lifting Lugs/Valve Support	STANDARD	STANDARD	STANDARD
› Manual or Actuated Operation	AS REQUESTED	AS REQUESTED	AS REQUESTED
› Firesafe Design	STANDARD	STANDARD	STANDARD
› Normal Acting	STANDARD	STANDARD	STANDARD
› Reverse Acting	OPTIONAL	OPTIONAL	OPTIONAL
› Rising Stem Design	STANDARD	STANDARD	STANDARD
› Non-Rising Stem Design	N/A	OPTIONAL	OPTIONAL
› Gate Skirt	OPTIONAL	OPTIONAL	OPTIONAL
› In-Line Maintenance	YES	YES	YES
› On-Site Maintenance	YES	YES	YES

MV7-P GATE VALVE - FABRICATED BODY



BENEFITS OF THE FABRICATED GATE VALVE DESIGN

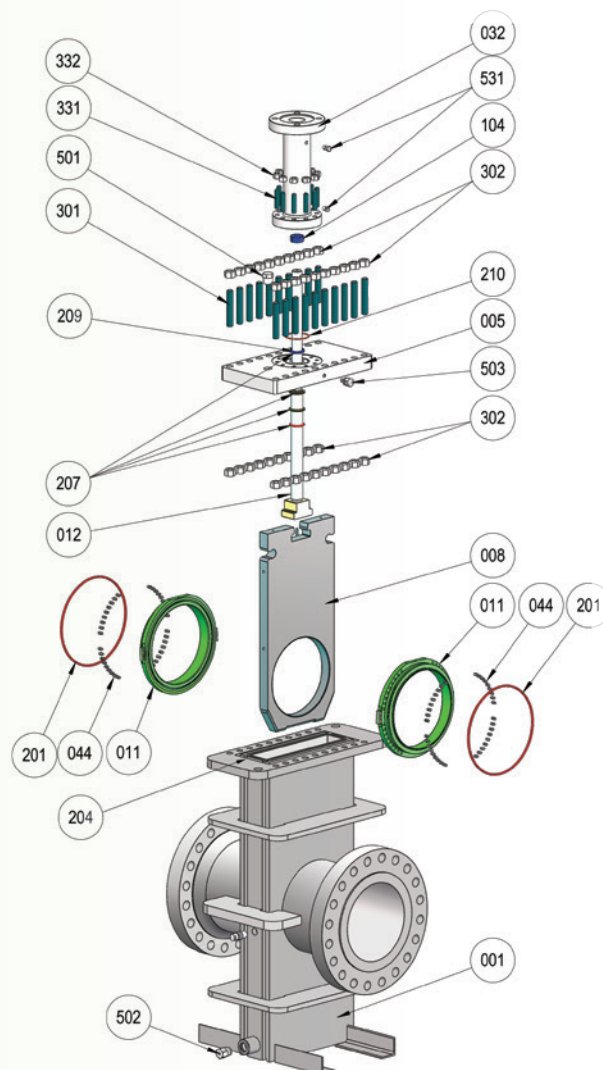
- › This body construction is typically used for **low pressure** as well as **standard** services and applications.
- › It is the **most popular design** due to **competitive cost** and **fast delivery**.
- › **Full in-line maintenance.** The bolted top-entry construction allows disassembly on site for inspections and repairs or replacement of internal parts, in a wide range of applications. Clearing the bonnet off the valve allows free access to the slab and the seats, which can be taken out. The upper stem seal gasket is replaceable with pressure in line.
- › The **flat sealing surfaces** between the slab and the seats ensure a **bubble-tight shut-off** even for the metal-seated configuration.
- › **Reduced number of potential leak paths.**
- › Sized to **withstand external loads from the pipeline** even when the bonnet, the slab and the seats are removed for maintenance.
- › Can be welded directly onto the pipeline
- › Available for all industries and applications.

BILL OF MATERIALS

001	BODY
005	BONNET
008	GATE
011	SEAT
012	STEM
032	YOKE
044	SPRING
104	STEM BEARING
201	SEAT SEAL
204	BODY SEAL
207	STEM SEAL
209	STEM FIRE SAFE GASKET
210	BONNET SEAL
301	BODY STUD
302	BODY NUT
331	YOKE STUD
332	YOKE NUT
501	VENT FITTING
502	BLEED FITTING
503	STEM GREASE FITTING
531	EXTENSION VENT

RECOMMENDED SPARE PARTS FOR START-UP AND MAINTENANCE

201	SEAT SEAL
204	BODY SEAL
207	STEM SEAL
209	STEM FIRE SAFE GASKET

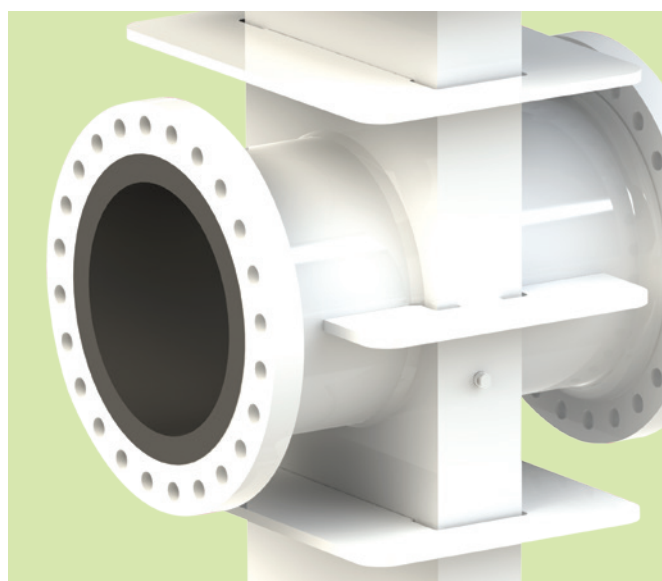
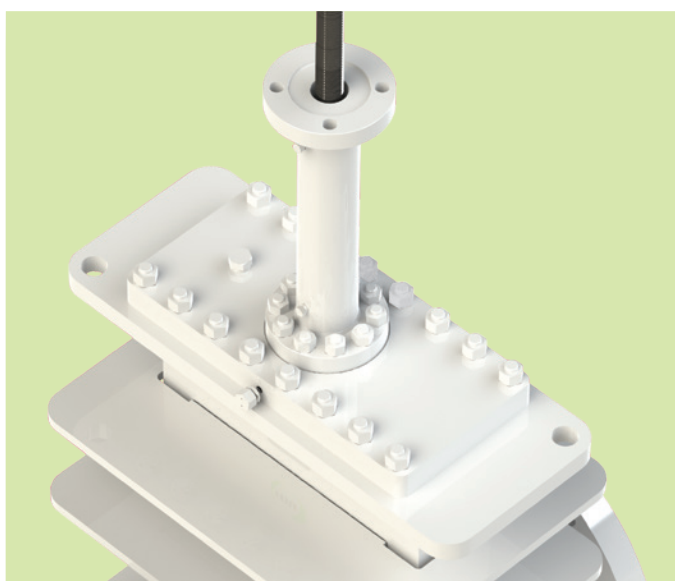
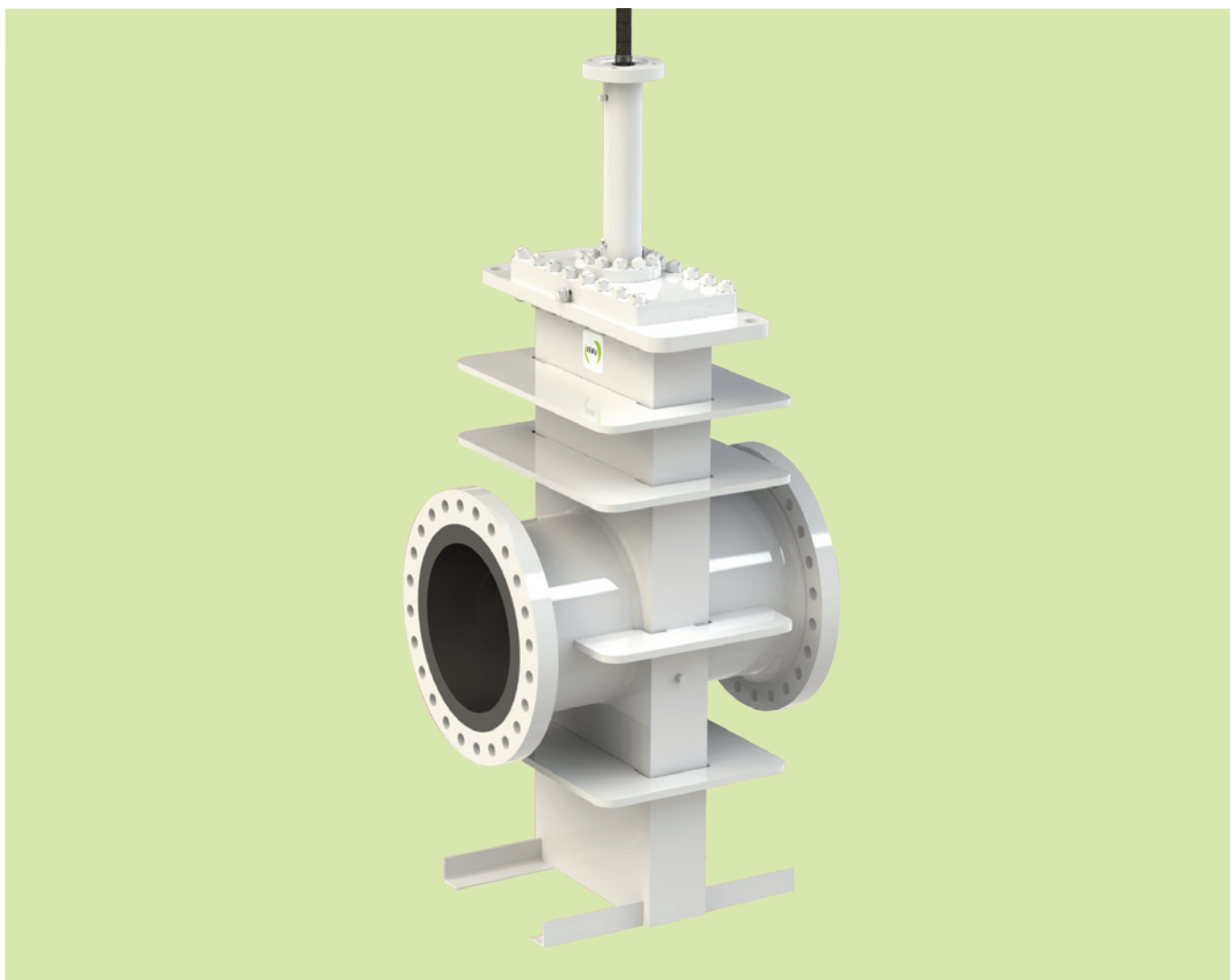


This body construction is typically used for low pressure as well as standard services and applications. It is the most popular design due to competitive cost and fast delivery.

MV7-P GATE VALVE - FABRICATED BODY



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API 6D THROUGH-CONDUIT GATE VALVES
MV7-P MV7-F MV7-C

MV7-F GATE VALVE - FORGED BODY



BENEFITS OF THE FORGED GATE VALVE DESIGN

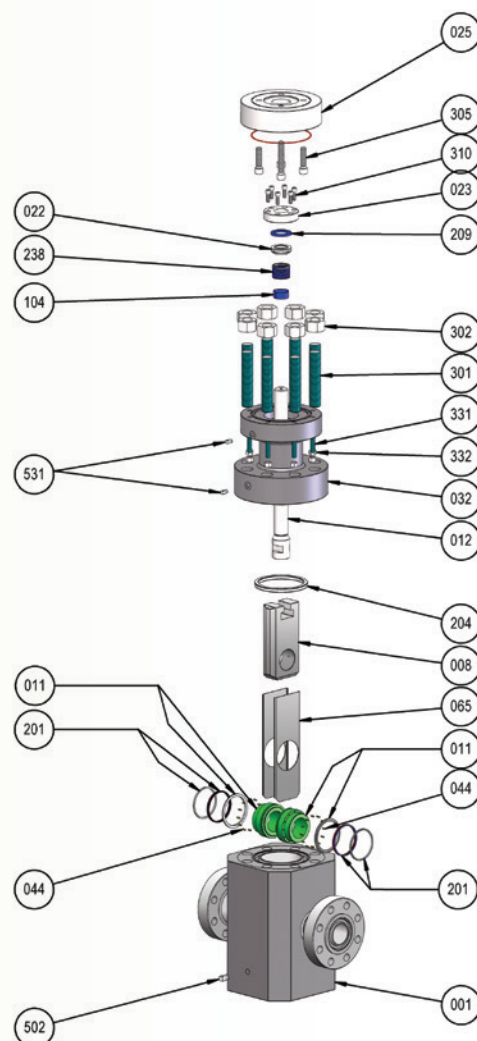
- › This body construction is ideal for **high pressure** as well as special services and applications (**low or high temperature and subsea**). It has size limitations up to 16", but it offers the **highest quality of material** and is available in a wider range of materials.
- › **Full in-line maintenance.** The bolted top-entry construction allows disassembly on site for inspections and repairs or replacement of internal parts, in a wide range of applications. Clearing the bonnet off the valve allows free access to the slab and the seats, which can be taken out. The upper stem seal gasket is replaceable with pressure in line.
- › The **flat sealing surfaces** between the slab and the seats ensure a **bubble-tight shut-off** even for the metal-seated configuration.
- › **Reduced number of potential leak paths.**
- › Sized to **withstand external loads from the pipeline** even when the bonnet, the slab and the seats are removed for maintenance.
- › Can be welded directly onto the pipeline
- › Available for all industries and applications.

BILL OF MATERIALS

001	BODY
008	GATE
011	SEAT
012	STEM
022	LATERN
023	PACKING FLANGE
025	OPERATOR FLANGE
032	YOKE
044	SPRING
065	SKIRT
104	STEM BEARING
201	SEAT SEAL
204	BODY SEAL
209	STEM FIRE SAFE GASKET
238	PACKING
301	BODY STUD
302	BODY NUT
305	OPERATOR MOUNTING STUD
310	STUD
331	YOKE STUD
332	YOKE NUT
502	BLEED FITTING
531	EXTENSION VENT

RECOMMENDED SPARE PARTS FOR START-UP AND MAINTENANCE

104	STEM BEARING
201	SEAT SEAL
204	BODY SEAL
209	STEM FIRE SAFE GASKET
238	PACKING



This body construction is ideal for high pressure as well as special services and applications (low or high temperature and subsea). It has size limitations up to 16", but it offers the highest quality of material and is available in a wider range of materials.

MV7-F GATE VALVE - FORGED BODY



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API 6D THROUGH-CONDUIT GATE VALVES
MV7-P MV7-F MV7-C

MV7-C GATE VALVE - CAST BODY



BENEFITS OF THE CAST BODY GATE VALVE DESIGN

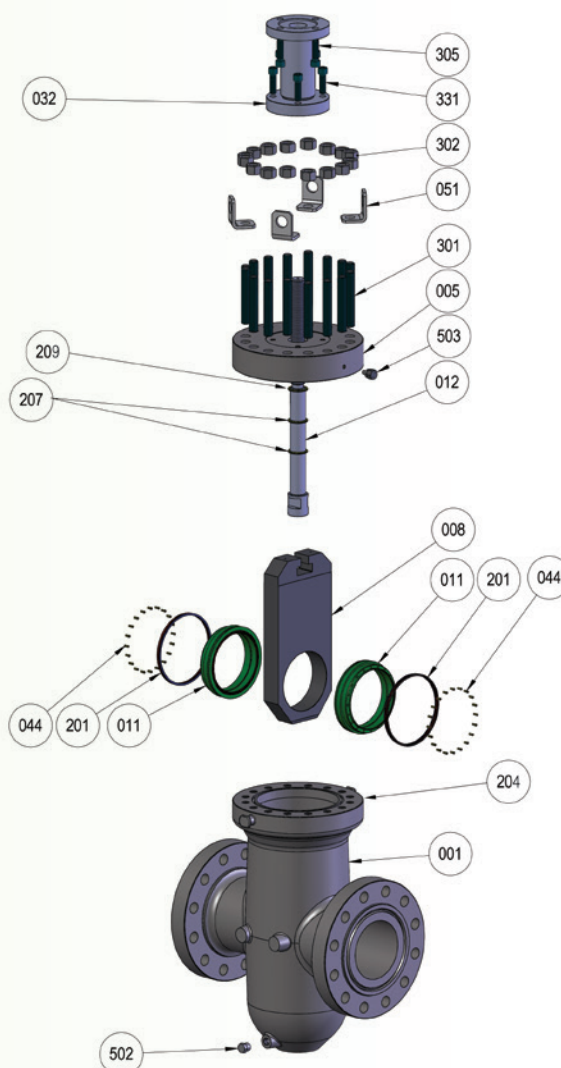
- › This body construction is typically used for **high pressure** as well as special services and applications (**low or high temperature and subsea**).
- › **Full in-line maintenance.** The bolted top-entry construction allows disassembly on site for inspections and repairs or replacement of internal parts, in a wide range of applications. Clearing the bonnet off the valve allows free access to the slab and the seats, which can be taken out. The upper stem seal gasket is replaceable with pressure in line.
- › The **flat sealing surfaces** between the slab and the seats ensure a **bubble-tight shut-off** even for the metal-seated configuration.
- › **Reduced number of potential leak paths.**
- › Sized to **withstand external loads from the pipeline** even when the bonnet, the slab and the seats are removed for maintenance.
- › Can be welded directly onto the pipeline
- › Available for all industries and applications.

BILL OF MATERIALS

001	BODY
005	BONNET
008	GATE
011	SEAT
012	STEM
032	YOKE
044	SPRING
051	LIFTING LUG
201	SEAT SEAL
204	BODY SEAL
207	STEM SEAL
209	STEM FIRE SAFE GASKET
301	BODY STUD
302	BODY NUT
305	OPERATOR MOUNTING STUD
331	EXTENSION STUD
502	BLEED FITTING
503	STEM GREASE FITTING

RECOMMENDED SPARE PARTS FOR START-UP AND MAINTENANCE

201	SEAT SEAL
204	BODY SEAL
209	STEM FIRE SAFE GASKET
207	STEM SEAL

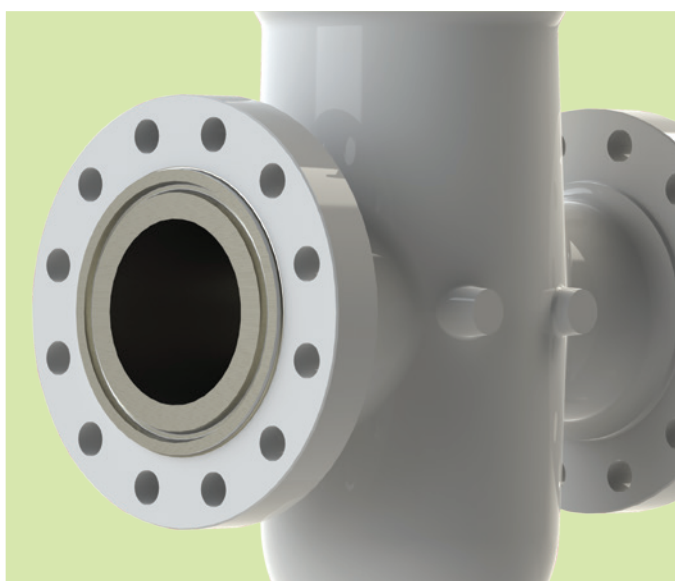


This body construction is typically used for high pressure as well as special services and applications (low or high temperature and subsea).

MV7-C GATE VALVE - CAST BODY



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API 6D THROUGH-CONDUIT GATE VALVES
MV7-P MV7-F MV7-C

SPECIAL GATE VALVES



SUBSEA GATE VALVES

KEY DESIGN CHANGES FROM TOPSIDE TO SUBSEA

- › Additional environmental sealing at body to bonnet and body to stem
- › CRA overlay on sealing or process wetted areas
- › ROV interface to API 17H/ISO13628-8 (optional)
- › More stringent requirements for material selection
- › Advanced inspection and testing requirements (i.e. hyperbaric testing, cycling)
- › Cast or forged body construction

LOW TEMPERATURE VALVES DOWN TO -160°C

KEY DESIGN CHANGES FROM STANDARD TO LOW TEMPERATURE

- › Extended bonnet with vapor space to maintain the stem packing within the suitable temperature range
- › Low friction coating on seating for smoother operation
- › Fugitive emission (FE) compliance
- › More stringent requirements for material selection
- › Supplementary inspection and testing (i.e. FE, Low temperature testing)
- › Cast or forged body construction

HIGH TEMPERATURE VALVES +220°C TO +450°C

KEY DESIGN CHANGES FROM STANDARD TO HIGH TEMPERATURE

- › Metal and graphite seals
- › Inherently firesafe design
- › Advanced selection of hard facing technologies suitable for various services
- › Bellow seat design
- › Cast or forged body construction



MV7-F-SS Subsea Forged Gate Valve 10" CL.300 RTJ Forged Body LTCs with SS weld overlay on all wetted parts, Duplex trim, TCC hardfacing, lipseals High pressure gas testing, 35m depth, Malaysia

DESIGN SPECIFICATIONS

DESIGN STANDARDS

DESIGN	BODY THICKNESS	BOLTING	FACE-TO-FACE DIMENSIONS	DRIVE TRAIN SIZING (MAST)	FIRESAFE
API 6D/ISO 14313 API 6DSS/ISO 14723 Customer Specifications	ASME VIII-1, VIII-2 ASME B16.34	ASME VIII-1, VIII-2 ASME B16.34	API 6D/ISO 14313 API 6DSS/ISO 14723 ASME B16.10	ASME VIII-1, VIII-2	ISO 10497/API 607 API 6FA
OTHERS	Materials: ASME II-D Flanges: ASME B16.5	NDT: ASME V Weld ends: B16.25	Welding: ASME IX Gas pipeline: EN 14141	Sour service: NACE MR-0175/ISO 15156	

MATERIAL SPECIFICATIONS

BODY	SLAB/SEATS	STEM	SEATING/SEALS	BOLTING
CARBON STEEL › A105 › WCB › LCC › LF2 › LF3 › EN 10028 S355 › A516 Gr.70 STAINLESS STEEL › 316 › 321 › 347 DUPLEX SS SUPERDUPLEX SS NICKEL ALLOYS › Inconel › Monel TITANIUM OTHERS	CARBON STEEL › A105 › LF2 › LF3 › F60/F65 › EN 10028 S355 › A516 Gr.70 STAINLESS STEEL › 316 › 321 › 347 › 13Cr › 13Cr4Ni › 17-4PH › Nitronic DUPLEX SS SUPERDUPLEX SS NICKEL ALLOYS › Inconel › Incoloy › Monel › Stellite TITANIUM OTHERS	CARBON STEEL › 4140 › LF3 STAINLESS STEEL › 316 › 13Cr › 13Cr4Ni › 17-4PH › Nitronic DUPLEX SS SUPERDUPLEX SS NICKEL ALLOYS › Inconel › Monel TITANIUM OTHERS	SOFT SEATING › FKM › HNBR › FFKM METAL SEATING › TCC › ENP › CCC › Ni-SiC	CARBON STEEL › B7/2H › L7/7 › B7M/2HM › L7M/7M › L43 STAINLESS STEEL › B8/8 › B8M/8M › 660 DUPLEX SS SUPERDUPLEX SS NICKEL ALLOYS › Inconel TITANIUM OTHERS

COATING

ENP	Electroless Nickel Plating (25μ, 75μ)
Ni-SiC	Nickel-Silicon Carbide Plating (25μ, 50μ)
TCC	Tungsten Carbide Coating (150μ, 200μ, 400μ)
CCC	Chrome Carbide Coating (150μ)
Weld Overlay	AISI 316/316L, ALLOY 625
Stellite	Gr. 6, Gr. 12

MV7-P Through-Conduit Fabricated Gate Valve
20" CL. 400 BW Body and Gate A516 Gr.70, Stem 17-4PH
Underground and above ground installation, Europe



API 6D THROUGH-CONDUIT GATE VALVES

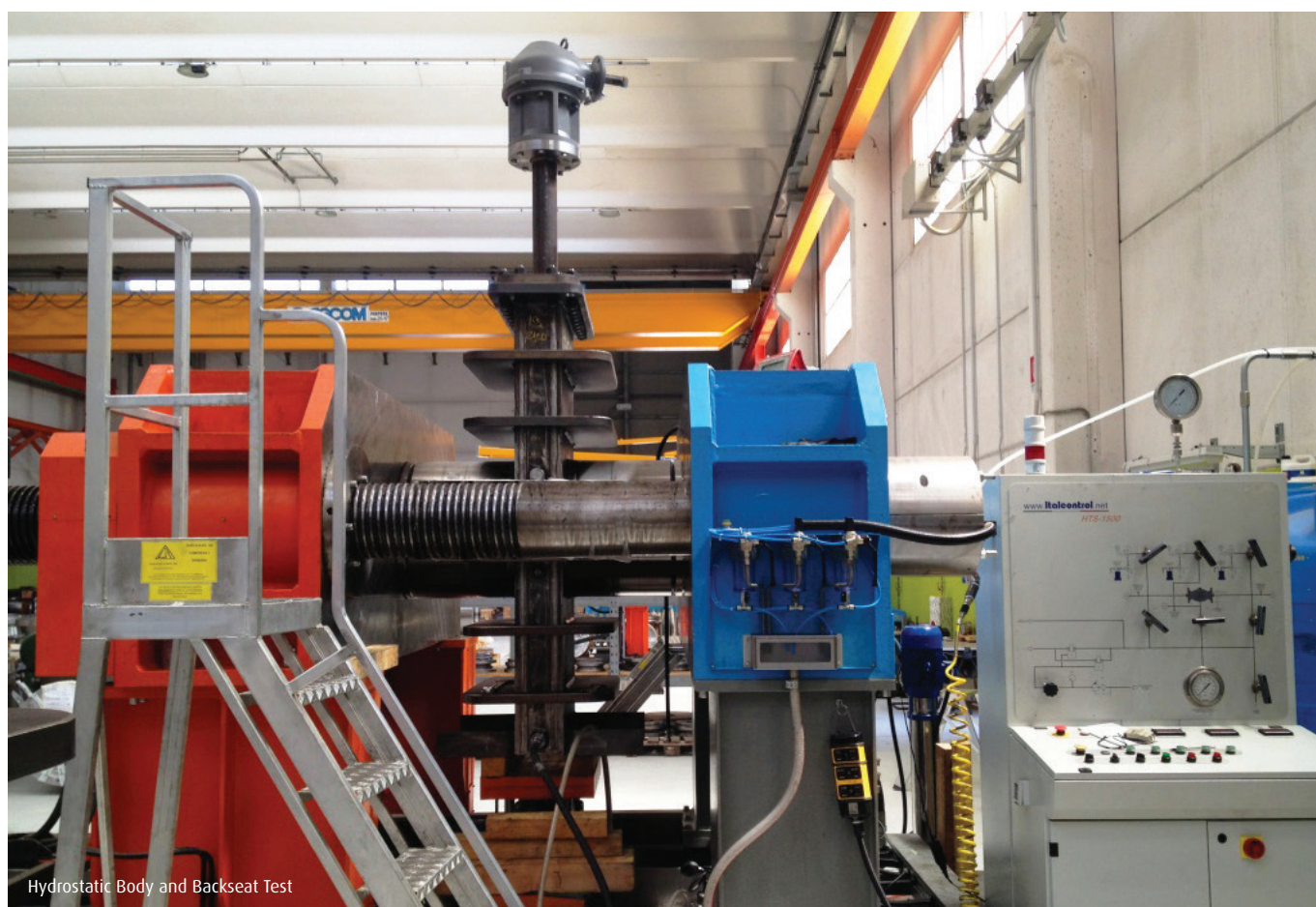
MV7-P MV7-F MV7-C

TESTING CAPABILITY



AS PER DESIGN STANDARDS AND CUSTOMER REQUIREMENTS

STANDARD TESTS	ADDITIONAL TESTS (UPON REQUEST)	QUALITY ASSURANCE / CERTIFICATION
<ul style="list-style-type: none"> › Hydrostatic Body Test › Stem Backseat Test › Hydrostatic Seat Test › Low Pressure Air Seat Test › Functional Test › Anti-static Device Test 	<ul style="list-style-type: none"> › Torque Test › Endurance Test (cycling) › Cavity Relief Test › Drift Tool Test › DB&B Test › High Pressure Gas Test › Fugitive Emission Test acc. to ISO15848 or MESG SPE 77/312 › Low Temperature Test › Firesafe Test › Hyperbaric Test › Others as per customer requirements 	<ul style="list-style-type: none"> › API 6D for Gate Valves › API 6DSS for Subsea Gate Valves › CE-PED 97/23/EC › CE-ATEX 94/9/EC › Firesafe ISO 10497/API 607 › ISO 9001/API Q1 › Achilles JQS Certificate of Qualification › Gost R/Rostechnadzor (Russia) › Gospronadzor (Belarus) › ISO/IEC 17025 › FPAL



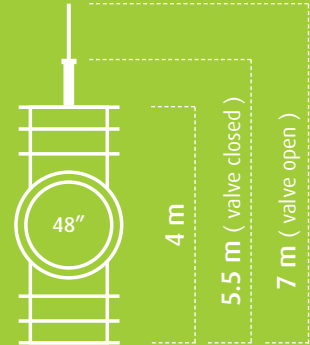
Hydrostatic Body and Backseat Test

BEST OF MIR GATE VALVES



MV7-P Through-Conduit
Fabricated Gate Valve
48" CL. 150 BW Body
and Gate A516 Gr.70,
Stem 17-4PH
Above ground
installation, Europe

LARGEST GATE VALVE
TO DATE (48")



MV7-P Through-Conduit Fabricated Gate Valve
20" CL. 400 BW Body and Gate A516 Gr.70, Stem 17-4PH
Underground installation, Europe



API 6D THROUGH-CONDUIT GATE VALVES
MV7-P MV7-F MV7-C

Doc. No. MIR - CAT - 6D - GV Rev.1 - October 2014

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Sales Office Dubai, UAE

Coming up in 2015