

GOODWIN



Dual Plate Check Valves

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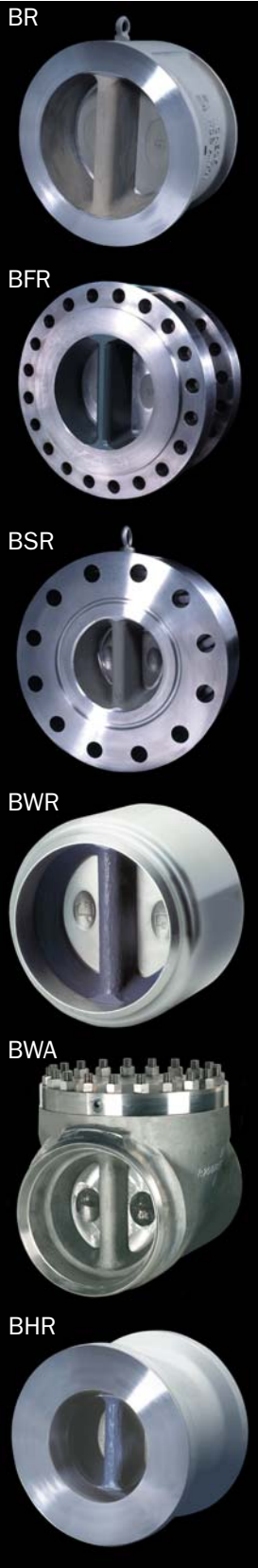
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Goodwin - The International Company



Goodwin International is the market leader in the design and manufacture of Dual Plate Check Valves for use in the world's hydrocarbon, energy and process industries. With a track record of supply spanning almost 30 years, Goodwin has developed an enviable reputation for quality and reliability of product at internationally competitive prices.

Based in the United Kingdom, Goodwin sells internationally exporting to over 50 countries. Through its network of agents and distributors, with some US\$ 7,500,000 of inventory in 18 stocking locations worldwide, Goodwin offers outstanding support to its customers listed amongst whom are many of the world's end users, oil majors and international engineering contractors.

The Goodwin range of Dual Plate Check Valves:

6 different body styles: Wafer (BR)
 Flanged (BFR)
 Solid Lug (BSR)
 Buttweld end (BWR)
 Buttweld end with access (BWA)
 Hub-ended (BHR)

Sizes: 2" - 144" (50mm - 3600mm)

Pressure Classes: ANSI 150 - 2500 lb, API 2000 - 10000, PN 10 - PN 400, JIS 10K & 20K.

Materials: Cast, ductile and Ni-Resist® Irons; Carbon Steels; Stainless Steels; Duplex Stainless Steels; Aluminium Bronzes; High Nickel Alloys; Titanium.

Features: Designed, manufactured, assembled and tested in accordance with Quality Assurance System accredited by BSI to BS EN ISO 9001:2008

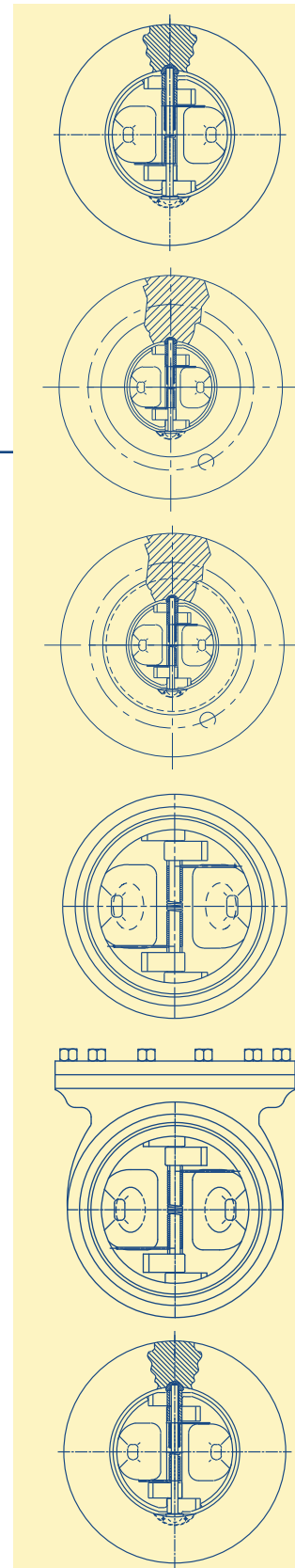
Certifiable in compliance with European Pressure Directive (PED) 97/23/EC and/or ATEX Directive 94/9/EC to meet customer requirements when specified.

Designed and tested to API 594

All bodies, plates and trim material are certified to BS EN 10204 3.1 as a minimum

Retainerless design as standard. No screwed body plugs - no leakpath to atmosphere - no fugitive emissions

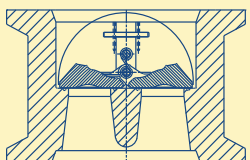
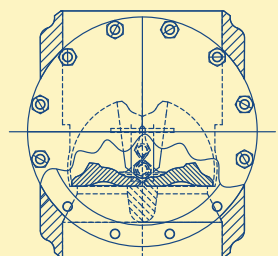
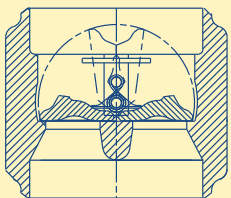
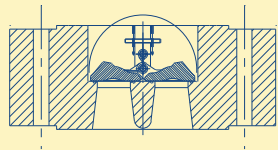
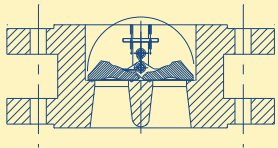
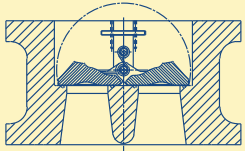
Firetested design. Firetest approved and certified to API 6FA, API 6FD and BS 6755 Pt2.



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Some Major Project Successes

| PROJECT NAME | MARKET SECTOR | LOCATION | CUSTOMER | ENGINEERING CONTRACTOR | YEAR |
|--|---------------|--------------------------|--|--|---------|
| Sulphide Leach Project | Minerals | Antofagasta, Chile | Minera Escondida Limitada | ICA Fluor - Chile | 2004/05 |
| Yizheng-Changling Crude Oil Pipeline | Pipeline | China | Sinopec | Sinopec Pipeline Design & Research Institute - China | 2005 |
| Kashagan Field Development: Process & Utility Barges | Oil | Kazakhstan | Agip Kazakhstan North Caspian Operating Co | Aker Kvaerner - Norway | 2005 |
| Kashagan Onshore Process Plant | Oil | Kazakhstan | Agip Kazakhstan North Caspian Operating Co | Petrofac - UAE | 2005 |
| QatarGas II Development Project | LNG | Ras Laffan, Qatar | QatarGas Liquefied Gas Co. Ltd II (ExxonMobil - Total) | Chiyoda - Japan / Technip - France | 2005/07 |
| QatarGas 3 & 4 Onshore Project | LNG | Ras Laffan, Qatar | QatarGas 3 & 4 Projects (ConocoPhillips - QP) | Chiyoda - Japan / Technip - France | 2005/07 |
| AKPO FPSO | Oil | Nigeria | Total Upstream Nigeria | Technip - France / HHI - Korea | 2006 |
| Dung Quat Refinery | Refinery | Vietnam | PetroVietnam | Technip - Malaysia | 2006 |
| Hawiyah NGL | Gas | Saudi Arabia | Saudi Aramco | JGC - Japan | 2006 |
| OGD III Upstream | Oil / Gas | Bab, Abu Dhabi | GASCO | NPCC - Abu Dhabi | 2006 |
| Jamnagar Export Refinery PH II | Refinery | Jamnagar, India | Reliance Petroleum | Bechtel - UK | 2006/07 |
| Golden Pass LNG | LNG | Louisiana, USA | Golden Pass LNG Co (ExxonMobil - QP) | Chicago Bridge & Iron - USA | 2007 |
| Ledong 15-1/22-1 Gas Field | Gas | South China Sea, China | CNOOC | Offshore Oil Engineering Co - China | 2007 |
| Qatar Shell Pearl GTL | GTL | Ras Laffan, Qatar | Qatar Shell GTL Ltd | Chiyoda - Japan | 2007 |
| Vasai East Devt / BCPA-2 Platform | Oil | India | ONGC | Samsung Heavy Industries - Korea | 2007 |
| Puguang Sour Gas Field | Gas | Sichuan, China | Sinopec Zhongyuan Oilfield Co | Sinopec Shengli Engineering & Consulting - China | 2007 |
| Gas Centre 24 (GC-24) | Gas | Kuwait | Kuwait Oil Co | SK Engineering Construction - Korea | 2007 |
| Pazflor FPSO | Oil | Angola | Total Angola | Daewoo Shipbuilding & Marine Engineering, Korea | 2008 |
| PetroquimicaSuape PTA Plant | Chem | Brazil | PetroquimicaSuape | Aker Kvaerner, UK | 2008 |
| Borouge II Ethylene Cracker | PetChem | Abu Dhabi | Borouge | Linde, Germany | 2008 |
| Borouge II Offsites | PetChem | Abu Dhabi | Borouge | Tecnicas Reunidas - Spain | 2008 |
| North Belut Field | Gas | Indonesia | ConocoPhillips | PT Technip, Indonesia | 2008 |
| Kearl Oilsands | Oil | Alberta, Canada | Imperial Oil/ExxonMobil | AMEC, Canada | 2009 |
| Victoria Desalination Plant | Desal | Victoria, Australia | Aquasure Pty | Thiess Degremont JV, Australia | 2009 |
| OML 58 Upgrade | Oil | Nigeria | Total Nigeria | Saipem, France | 2009 |
| Gumusat / Kakap FPSO | Oil | Malaysia | Sabah Shell Petroleum | MMHE - Malaysia | 2009/10 |
| Mundra Bathinda Pipelines | Pipeline | India | HPCL-Mittal | EIL | 2009 |
| Roncador Field Development: P55 FPSO (Topside) | Oil | Brazil | Petrobras | EAS - Brazil | 2009 |
| Roncador Field Development: P55 FPSO (Hull) | Oil | Brazil | Petrobras | Quip - Brazil | 2009 |
| ASAB Full Field Development | Gas | Abu Dhabi | ADCO | Petrofac - UAE | 2009 |
| BS 160 Booster Station | Gas | Kuwait | KOC | Saipem - India | 2009 |
| Sakhalin 1: Arkutun-Dagi Platform | Oil | Sakhalin Island, Russia | Exxon Neftegaz | Worley Parsons - USA | 2010 |
| El Merk Field Development: Off-sites Facilities | Oil | Algeria | JV Sonatrach Anadarko | ABB - Italy | 2010 |
| El Merk Field Development: Central Processing Facilities | Oil | Algeria | JV Sonatrach Anadarko | Petrofac - UAE | 2010 |
| Gorgon LNG | LNG | Barrow Island, Australia | Chevron | Kellogg JV Gorgon - UK | 2010 |
| Chirag Oil | Oil | Azerbaijan | AIOC (BP) | KBR - UK | 2010 |



Engineering Contractors

ABB LUMMUS GLOBAL
ACERGY
AIR PRODUCTS
AIR LIQUIDE
AKER KVAERNER
ALLIANCE
AMEC
AMKC
ATLANTIA
ATLANTICO SUL

BANTREL
BECHTEL
BLACK & VEATCH
BOC

CB & I
CB & I JOHN BROWN
CHIYODA
CLOUGH
COLT ENGINEERING
CONSOLIDATED CONTRACTORS
COSTAIN
CTCI

DAELIM
DAEWOO
DEGREMONT
DODSAL
DOOSAN

EDELEANU
EIL
ENPPI
ENTREPOSE

FLUOR DANIEL
FOSTER WHEELER

GEC ALSTOM
GROOTINT
GS ENGINEERING
GUSTO

HALLIBURTON
HAMWORTHY
HANWHA
HATCH
HITACHI ZOSEN
HYUNDAI

ICA FLUOR
IOEC
I V OIL & GAS

JACOBS
JGC
JP KENNY CALEDONIA
J. RAY McDERMOTT

KAWASAKI
KTI
KELLOGG BROWN & ROOT
KEPPEL FELS
KRUPP UHDE

LARSON & TOUBRO
LINDE
LITWIN
LURGI

MACCHI
MAN TURBO
M.W. KELLOGG
MHJ
McDERMOTT
MES
MODEC
MUSTANG

NATCO
NIPPON STEEL
NPCC
NUOVO PIGNONE

OIEC
PARSONS
PARAGON
P.T. TRIPATRA
PENANG SHIPBUILDING
PETROFAC
PETROJET
PROMAN
PROSERMAT

QUIP

RAYTHEON ENGINEERING
RANHILL WORLEY

SADRA
SAIBOS
SAIPEM
SALZGITTER
SAMSUNG
S&B
SBM
SBM-IMODCO

SEC
SEMBAWANG ENGINEERING
SENER
SHAW
SHEDDEN UHDE
SIME DARBY
SIME SEMBANG
SK ENGINEERING
SNAMPROGETTI
SNC LAVALIN
SOFRESID
SPIE CAPAG
STG INTERNATIONAL
STOLT OFFSHORE
STONE AND WESTER
STORK PROTECH
SWECOMEX

TECNICAS REUNIDAS
TECNIMONT
TECHNIP
TOYO ENGINEERING
TRANSFIELD WORLEY
TRI OCEAN

UHDE
UMA ENGINEERING
UTC

W S NELSON
WEIR WESTGARTH
WILBROS
WOOD GROUP
WORLEY PARSONS

VECO
VOSPER THORNECROFT

End Users

ADCO
ADMA OPCO
ADNOC
ADWEA
AGIP
AIOC
AIR LIQUIDE
ALSTOM
AMERADA HESS
ANADARKO
ARAMCO

BASF
BAPETCO
BHP BILLITON
BOC
BOROUGE
BG
BP
BTC PIPELINE CO

CHEVRON
CNOOC
CNPC
CNRL
CNTIC
CON EDISON
CONOCOPHILLIPS
CTOC

DOLPHIN ENERGY
DOW CHEMICAL
DUKE POWER
DUPONT

EASTMAN CHEMICALS
ECOPETROL

EDISON
EG LNG
EGAT
EGPC
EMEPMI
ENAGAS
ENCANA
ENI
ESSO
EXXONMOBIL
EXXONEFTGAS

FORMOSA
GAIL
GASCO
GAZ DE FRANCE
GE
GENREF
GORO NICKEL
GULF

HUSKY OIL

INDIA OIL CORP
IPCL
IRVING OIL

JUPC

KNPC
KOC
KOGAS

LAGOVEN
LASMO
LYONDELL/CITGO

MAERSK
MARATHON
MARAVEN
METHANEX
MEW (OMAN)
MEW (KUWAIT)
MINERA ESCONDIDA
MURPHY OIL

NATCO
NLNG
NNPC
NODCO
NORSK HYDRO
NOVA CHEMICALS

OCCIDENTAL
OMV
ONGC
ORYX

PDO
PDVSA
PEMEX
PERTAMINA
PETROBRAS
PETROCHINA
PETROVIETNAM
PIDEC
POGC
POSCO
PTT
PTTEP

QAFAC
QAFCO
QAPCO

QATAR VINYL CO
QP
QLGC (QATARGAS)
QUANTUM

RAS LAFFAN LNG CO
RELIANCE
REPSOL

SABIC
SAKHALIN ENERGY
SANTOS
SASOL
SAUDI CHEVRON PHILLIPS
SAUDI METHANOL CO
SEGAS
SHELL
SINOPEC
SK CORP
SONAHESS
SONATRACH
STATOIL
SUNCOR

TAKREER
TALISMAN
TENGIZCHEVROIL
THAI OLEFINS
TOTALFINAELF
TRANS CANADA
TYUMEN OIL

UNOCAL
WOODSIDE

YPF
ZADCO

Industries Served

On & Offshore Oil & Gas Production
Refinery
Petrochemical
Chemical
Fertilizer
Gas Plant
GTL

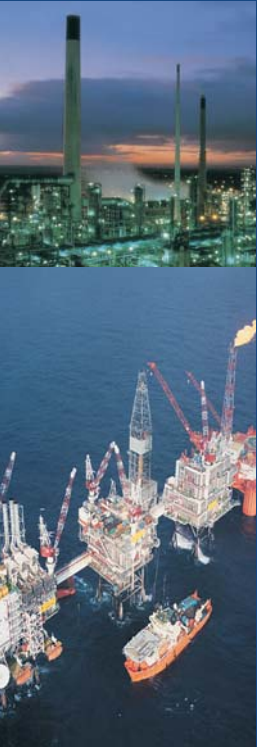
LNG
Liquid Gases
Terminals
Pipeline
Power
Desalination
Water

Typical Applications

Pump discharge
Compressor discharge
Compressor suction
Heat Exchangers
Reactors
Separators
Vessels

High / low pressure
High / low temperature
Cryogenic
Erosive
Corrosive
Flammable
Toxic

Chemicals
Petrochemicals
Hydrocarbons
Gases
Liquids
Steam
Seawater



Certificate No.
CE 55079



CERTIFICATE NO. FM 000343
ISO 9001



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