



Burckhardt Compression

Burckhardt Compression (India) Pvt. Ltd.

Process Gas Compressors Type BY

Expertly Manufactured – Easily Maintained



Compressor Design

Frame "Y" is the second amongst the family of rugged process gas compressors manufactured by Burckhardt Compression, a world leader in reciprocating compressor technology.

Burckhardt Compression India, a global manufacturing hub for both horizontal balanced-opposed and vertical configuration of the "Y" frame offers highest reliability. Designed to Swiss quality standards, these compressors are available both for oil free and lubricated compression. They are best suited for all the requirements in handling corrosive, dirty and toxic gases.

Markets and applications

- Petrochemical plants
- Chemical industry
- Refinery services and utilities
- Polyolefin plants
- Hydrotreatment
- Hydrodesulfurization
- Aromatics
- Natural gas handling and storage
- Compressed Natural Gas (CNG)
- Seismic exploration
- Wet oxidation units
- Industrial gases

Features & benefits

High availability

- Heavy-duty design
- Optimised selection of materials
- Moderate to low operating speed
- Guidelines according to API 618

Low operating cost

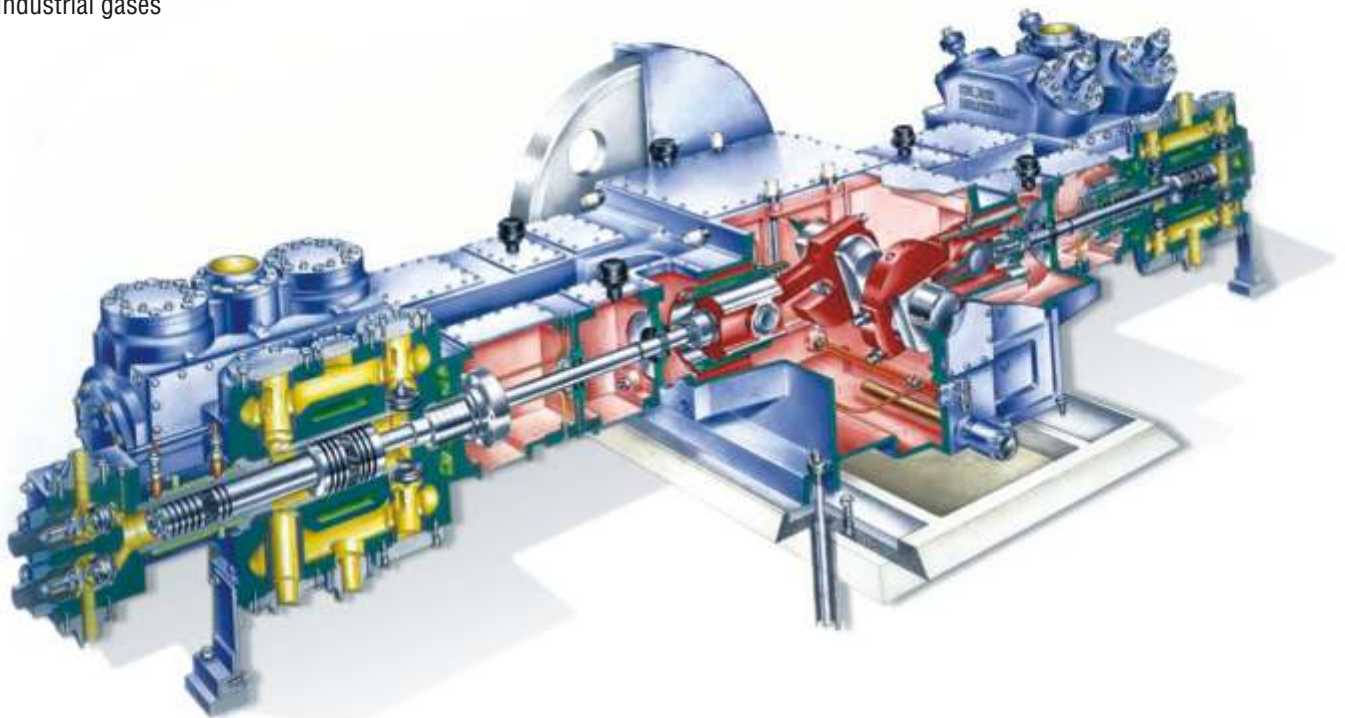
- High efficiency through careful selection of valves and seals
- Power savings by optimum flow control according to process requirements

Low maintenance cost

- Designed for easy maintenance to minimize downtime

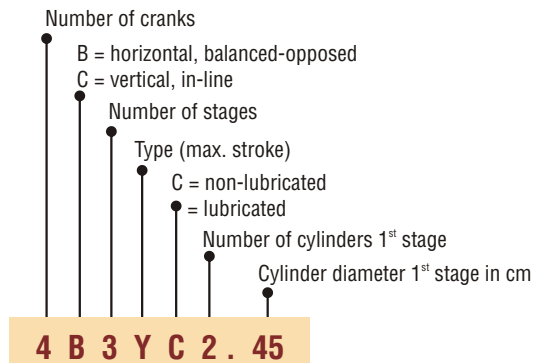
Duties

- Hydrocarbon gases
- Hydrogen
- Hydrogen sulphide
- Syngas
- Hydrogen chloride
- Chlorine
- Mixed gases
- Highly corrosive gases
- Toxic gases
- Bone-dry gases
- High pressure



The Process Gas Compressor of Compact Design with a Well-Balanced Performance Range

Key to type designation

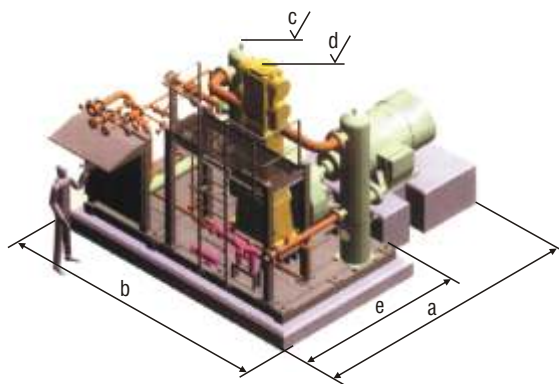


Design data

Type	Y
Stroke	160 mm
Max. power	800 kW
Max. speed	850 rpm
Max. suction capacity	2500 Nm ³ /hr
Max. discharge pressure	200 bar a

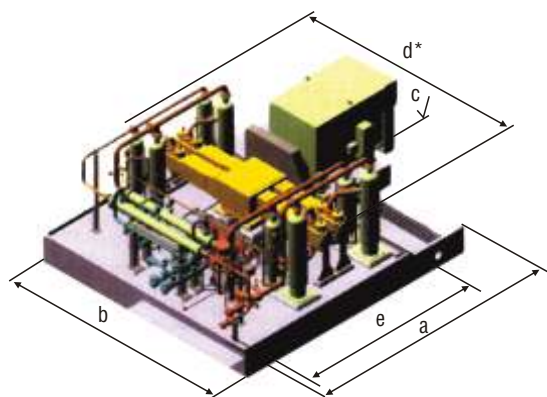
Main dimensions for estimating purpose only.

Vertical



		a	b	c	d	e
1 cranks	1 CY	3600	4000	3000	4200	1800
2 cranks	2 CY	4800	4000	3000	4200	2900
3 cranks	3 CY	5900	4000	3000	4200	3900

Horizontal



		a	b	c	d	e
2 cranks	2 BY	4000	4000	2500	6500	2400
4 cranks	4 BY	5000	4000	2500	6500	3000

d*: Piston/rod dismantling and service space requirement

Gas Flow under Control

Compressor valves

- Suction and discharge valve dimensions according to API specifications to prevent incorrect assembly in cylinder
- Valve plate or ring dynamics optimized by computer calculations
- State-of-the-art manufacturing process

To ensure long operating times, Burckhardt Compression offers the appropriate valve.

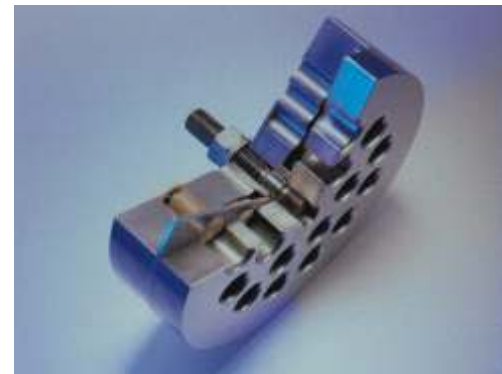
Burckhardt Plate Valve™

- Maximum availability and reliability for clean and dry gases
- Designed and manufactured by Burckhardt Compression (OEM)
- Frictionless valve plate guiding
- Identical internal parts for suction and discharge valves
- Seat and guard made of stainless steel or nickel alloy
- Plate materials made of heat treated stainless steel, nickel alloy or temperature-resistant plastic



Burckhardt Poppet Valve™

- High efficiency at low cost
- Similar characteristics as ring type valves
- Designed and manufactured by Burckhardt Compression (OEM)
- Seat and guard made of stainless steel
- Poppets made of injecting molded plastic
- Tightness insensitive to thermal expansion of plastic material
- Easy maintenance
- Fully field repairable because of the removable seat plate



MANLEY® valves, licensed by Burckhardt Compression

- Maximum availability and reliability for gases bearing liquid or hard solid particles
- Original MANLEY® rings, buttons and springs
- Seat and guard made of stainless steel, manufactured in-house under Cook Manley®, USA license
- Different ring materials available to suit various operating conditions





Easy maintenance with special tools

To simplify routine service, we supply a set of special tools with each compressor. These tools save downtime and money on overhauls by facilitating:

- Assembly and installation of large valves in horizontal compressors
- Hydraulic fastening of vital connections, where applicable
- Quick and easy assembly of motion work

Minimized leakage

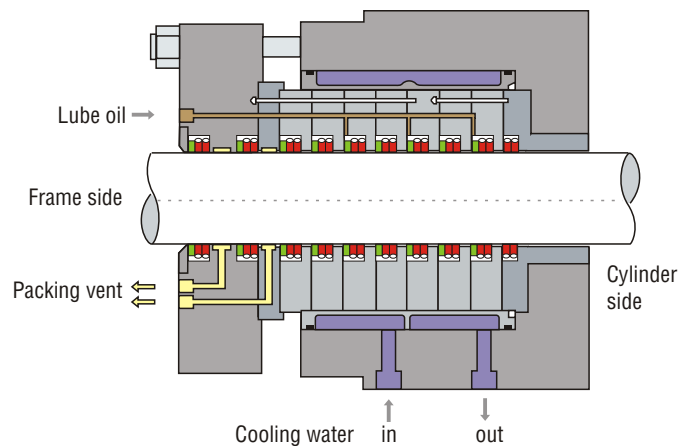
The seal between piston rod and cylinder comprises several stacked rings built as a cartridge for easy maintenance. We design our own packings for every duty, from high-pressure to non-lubricated cylinders and to special process conditions.

The packings are subject to our own stringent quality standards. Features:

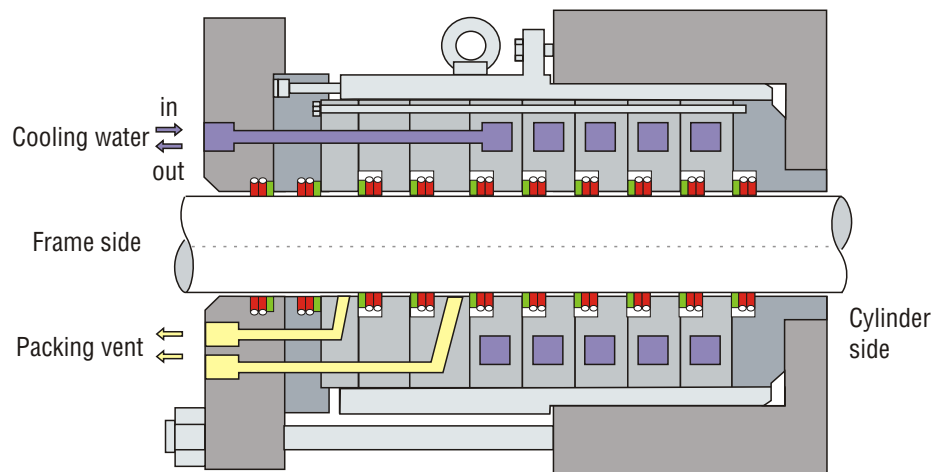
- Minimum gas leakage
- Low friction losses
- Direct or indirect cooling for effective heat removal

Our research department is continuously testing new materials to keep up with the latest developments. Therefore, our packings meet the high demands of legislature to protect the environment.

Lubricated packing



Unlubricated packing



Customer Support Services

A network of regional offices with trained service personnel ensures prompt pre and after sales service. Adequate stocks of essential spares are maintained in the factory so as to minimise downtime. Close contacts with the main office in Switzerland ensure expert advice for any project.

Service Center in Vadodara

Our service center in Vadodara can extend the life of compressor valves at a fraction of the cost of a new valve with the assurance from the OEM.



Manufacturing Facility

Plant

Burckhardt Compression (India) Pvt. Ltd. is a wholly owned subsidiary of Burckhardt Compression AG, Switzerland, one of the world's largest manufacturers of reciprocating compressors and committed to professional excellence.

Burckhardt Compression India is a leading player in high pressure air and gas compressor markets through its state-of-the-art plant in Kondhapuri near Pune offering a wide range of high technology products and system solutions to the Indian industry. Our compressors are used in CNG filling stations, gas bottling plants, refineries, petrochemicals, air separation plants as well as gas transport and storage.

Burckhardt Compression India also Packages Laby®-labyrinth piston compressors and process gas compressors imported from Burckhardt Compression AG, Switzerland.



Production

Manufacture and assembly are carried out at Kondhapuri works. Diversity of machining requirements is fulfilled with machine tools which range from hand operated lathes to advanced multipurpose CNC machine centers.



Quality Assurance

Quality assurance for reciprocating compressors is carried out in line with the levels employed by Burckhardt Compression AG, in Switzerland, developed to match the advanced technology and standards of the product. It is regularly adapted to keep abreast of requirements of the market as well as to new measuring and monitoring methods. Quality inspections are performed after each important stage of the manufacturing process. All pressure stressed parts, such as cylinders, crankcases and pressure vessels are hydraulically tested and leakage tests are made on the assembled gas and pressure-tight compressors.



Testing

Modern facilities equipped with an adequate selection of instrumentation are used to test each and every unit before it leaves the factory. This mechanical run and performance test simplifies the commissioning and start-up procedures.



Research & Development

Research & development have a high priority at Burckhardt Compression. A state-of-the-art software and hardware facility is available for solid modeling, analysis and simulation. The mechanical design and testing is done as per leading international codes (API, ASME, EN, TEMA, NES).

Milestones of our Company History

- | | | | |
|------|--|------|---|
| 2008 | First order for Process gas compressor type BY
450 th SHP compressor delivered
200 th CNG compressor delivered | 2001 | Commencement of export of CNG compressor |
| 2007 | First compressor delivered for Coal Bed Methane application | 2000 | 17 CNG Stations for Delhi |
| 2006 | First CT compressor delivered | 1999 | 100 th compressor delivered |
| 2005 | Compressor division of Sulzer India Ltd. transferred to Burckhardt Compression (India) Pvt. Ltd. | 1996 | Breathing air compressors
Laby [®] packaging for oxygen service |
| 2004 | Hydrogen feed gas compressor for a GTL plant
Formation of Burckhardt Compression (India) Pvt. Ltd. | 1995 | First argon gas compressor |
| 2003 | Complete turnkey CNG stations for Bangladesh | 1994 | First Laby [®] local packaging (Nitrogen gas) |
| 2002 | 200 bar Helium compressor | 1992 | First 350 bar hydrogen gas compressor |
| | | 1991 | First complete CNG station in Gujarat |
| | | 1998 | Sulzer Corporation establishes a joint venture company in Pune called Sulzer India Ltd. |



Laby[®]



Standard High Pressure Compressors
Type CU & CT



Hyper compressor

Compressors for a Lifetime

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