

Flanged Valves

Tough, Durable, Reliable



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Breakthrough Engineering for a Better World

Norgren is part of global engineering organisation IMI plc. IMI is at the forefront of delivering the solutions we need in a changing world and is focused on **creating tremendous value by solving key industry problems in attractive markets and employing the best.**

Norgren has a proud history of creating innovative engineering solutions in precise motion control and fluid technology, and we collaborate with our customers across more than 50 countries in critical areas such as Factory Automation, Material Handling, Rail, Energy, Process Control, Life Science and Commercial Vehicles.

From improving speed, productivity, reliability and efficiency of equipment, to generating significant energy and cost savings, or lowering total cost of ownership across many industries, Norgren's high-quality solutions are designed to help customers pursue progress, achieve new goals and overcome problems.

With market-leading industry expertise, we offer the capability, resources, engineering intelligence and global support infrastructure to tackle the largest project demands.

Our world-class portfolio of fluid and motion control products include Norgren, Bimba, Buschjost, FAS, Herion, Kloehn and Maxseal. Supplied either individually or combined into powerful customised solutions to meet customer needs.

Breakthrough engineering you can count on.

In use for more than half a century. Buschjost Flanged Valves

Tough, durable, reliable: Buschjost branded flanged valves have proven reliable in the field for many years. Customers in various industries have relied on Norgren's innovative products for more than 50 years – including general mechanical engineering and plant construction, the chemical industry, right up to the power plant sector.

The flanged valves are developed and produced in Bad Oeynhausen, North Rhine-Westphalia – from the smallest to the largest nominal diameter, all valves proudly display their "Made in Germany" seal of quality. Expert teams are continually working to improve the innovative technology even more, building on more than half a century of comprehensive expertise which has already been invested in the products. The aim of this continuous development is to always give our users a competitive advantage. Close partnerships help the experts at Norgren develop solutions that are perfectly tailored to our clients' unique challenges.

The Buschjost range of flanged valves is broad and includes not only standard specifications but also special solutions and customised variants. So different fluids and fields of application can be handled equally well.

Product highlights:

- » Long service life
- » High functional reliability
- » Low maintenance
- » Smooth-moving piston
- » Compact design
- » Easy to service



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Series	Type	Operation	Connection	Fluid temperature (max.)	Pressure range (bar)	Material Body	Features
83030 	Diaphragm solenoid valves	Indirect	Flange DN 15 ... 50	90 °C	0,1 ... 10 / 16	Cast steel / Brass	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In.
83040 	Diaphragm solenoid valves	Forced lifting	Flange DN 15 ... 50	90 °C	0 ... 10 / 16	Cast steel / Brass	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In.
85340 	Piston solenoid valve *back pressure tight	Forced lifting	Flange DN 15 ... 50	90 °C	0 ... 25	Stainless steel (1.4408)	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In. ASME B 16.5 300 lb/sq. In.
85780 	Piston solenoid valve *SIL	Forced lifting	Flange DN 15 ... 50	60 °C	0 ... 16 / 25	Stainless steel (1.4408) / (1.4581)	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In. ASME B 16.5 300 lb/sq. In.
NEW! 86480 	Piston solenoid valve	Forced lifting	Flange DN 65 ... 100	90 °C	0 ... 16	Spheroidal graphite iron	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In.
86500 	Piston solenoid valve	Forced lifting	Flange DN 15 ... 50	90 °C	0 ... 40	Cast steel / Brass	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In. ASME B 16.5 300 lb/sq. In.
NEW! 86500 	Piston solenoid valve	Forced lifting	Flange DN 65 ... 100	90 °C	0 ... 25	Spheroidal graphite iron	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In.
86520 	Piston solenoid valve	Forced lifting	Flange DN 15 ... 50	200 °C	0 ... 16	Stainless steel (1.4408) / Brass	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In. ASME B 16.5 300 lb/sq. In.
86540 	Piston solenoid valve	Forced lifting	Flange DN 15 ... 50	90 °C	0 ... 25 / 40	Stainless steel (1.4408)	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In. ASME B 16.5 300 lb/sq. In.
NEW! 86540 	Piston solenoid valve	Forced lifting	Flange DN 65 ... 100	90 °C	0 ... 25	Stainless steel (1.4408)	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In.
85660 	Piston solenoid valve	Indirect	Flange DN 15 ... 50	90 °C	0,5 ... 40	Cast steel / Brass	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In. ASME B 16.5 300 lb/sq. In.
86580 	Piston solenoid valve	Forced lifting	Flange DN 15 ... 50	90 °C	0 ... 25 / 40	Stainless steel (1.4408)	Option: Flange connection acc. to ASME B 16.5 150 lb/sq. In. ASME B 16.5 300 lb/sq. In.

Tough, durable and reliable - Buschjost Flanged Valves impress with their proven and innovative technology

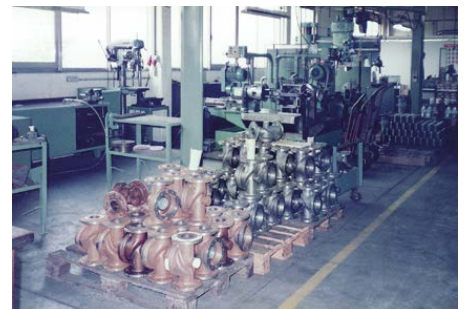
Over the past five decades, Buschjost branded flanged valves have successfully established themselves in the market. They have a wide application range, so as a result the valves can be used in a variety of industries.

For example, in general mechanical and plant engineering they are installed in tunnel boring machines, while in building technology they are used in temperature control and air-conditioning functions. They can be found in cooling or turbine auxiliary systems in power plants and in water treatment for the chemical industry. In short: Buschjost branded flanged valves have been developed to handle a wide range of different challenges.

A wide range of products and many designs and sizes are available to choose from. The valves are outstanding in their durability, reliability and value for money, as well as their robust construction and innovative technology. Experts continuously strive to improve the products to give users new and decisive competitive advantage. Recently, the larger sized DN 65, DN 80 and DN 100 flanged valves have been completely revised, creating a completely new generation of valves.



In 1961, special valves derived from the old 1000 series were produced for Hamburg's main post office's pneumatic delivery system.



Buschjost flanged valves have been developed and produced in Bad Oeynhausen (North Rhine-Westphalia) for more than 50 years.



Series 83580, in production until 2016



Series 85100, in production until 2005



Series 83050, in production until 2001

The new generation of flanged valves by Buschjost – optimisation of DN 65, DN 80 and DN 100 nominal diameters

The Buschjost DN 65, DN 80 and DN 100 nominal diameter flanged valves have been completely revised to be compliant with the current version of the Pressure Equipment Directive 2014/68/EU, with fundamental improvements and many benefits for users.

As with the smaller DN 15 to DN 50 nominal diameters, the new valve generation works on the basis of the force lifted piston principle. The proven labyrinth piston, which has PTFE guide rings instead of grooved seals, is new to the larger nominal diameters. These are particularly resilient, wear-resistant and durable – more information can be found on page 7 in the text "DN 65, DN 80 and DN 100 flange valves now also with innovative labyrinth technology".

Another highlight of the new valve generation is the innovative manual override. This unconventional solution, which acts directly on the valve spindle, provides a fast response: the valves can be fully opened or closed with a single 180 degree movement. A spindle, which is mechanically connected to the plunger, eliminates the need for manual stroke adjustment, making service and maintenance significantly easier and shorter.

An improved position indicator is yet another impressive feature of the new flanged valves. Two displays have been reduced to one, so there is only one sensor for the two "open" and "closed" switch positions. The programmable sensor makes operation significantly easier, meaning that operating errors are practically impossible. The compact design and size of the position indicator, which has been reduced by 50%, greatly minimise the risk of damage, for example during transport, installation or maintenance.

The new flange-generation is particularly easy to install with its slim construction and appealing design; its simple handling is also a plus point. DN 65, DN 80 and DN 100 flanged valves are available both in stainless steel and high-grade ductile iron, suitable for both PN16 and PN40 pressure stages and withstanding temperatures from -40 to +200 degrees Celsius easily. The life span of the valves is more than 200,000 switching cycles, depending on the application, which is more than double that of the previous models.

This generation of Buschjost flange valves and other versions have been available since mid-2017. We can offer the following versions:

- » Version with compact magnets and overexcitation
- » Low-temperature version for extreme temperatures as low as -40 degrees Celsius
- » Steam version for high temperatures up to +200 degrees Celsius
- » Version with ATEX-magnet 9540 & IECEx

The series will also be renamed with the development of the new generation of flanged valves. The following overview shows the old and new names:

Medium	Operating pressure	Port size (mm)									Old Series	New Series	Material
		15	20	25	32	40	50	65	80	100			
Neutral gases and fluids	0 ... 16 bar							•	•	•	83580, 84100, 84120, 84320	86480	Spheroidal graphite iron
Neutral gases and fluids	0 ... 25 bar	•	•	•	•	•	•	•	•	•	84200, 84220, 84340	86500	DN 15 - 50: Cast steel, Brass DN 65 - 100: Spheroidal graphite iron
Slightly aggressive gases and liquid fluids	0 ... 25 bar 0 ... 40 bar	•	•	•	•	•	•	•	•	•	84140, 84240	86540	Stainless steel (1.4408)

DN 65, DN 80 and DN 100 flanged valves now with innovative labyrinth technology

Labyrinth technology has revolutionised Buschjost branded piston valves from Norgren. For over five years now, the Buschjost DN 15 to DN 50 nominal diameter flanged valves have featured the technology that has been proven in numerous tests and found to be particularly durable. Labyrinth technology will now be introduced to the DN 65, DN 80 and DN 100 nominal diameters on revising these product lines.

The pistons have a wear-resistant graphite-covered labyrinth seal instead of a grooved seal. This consists of floating fitted and slotted PTFE guide rings which withstand temperatures up to 200 degrees Celsius. The labyrinth seal is impervious to pressure surges contrary to the flow direction, making its simple and compact construction, long life and high flow rate particularly impressive.

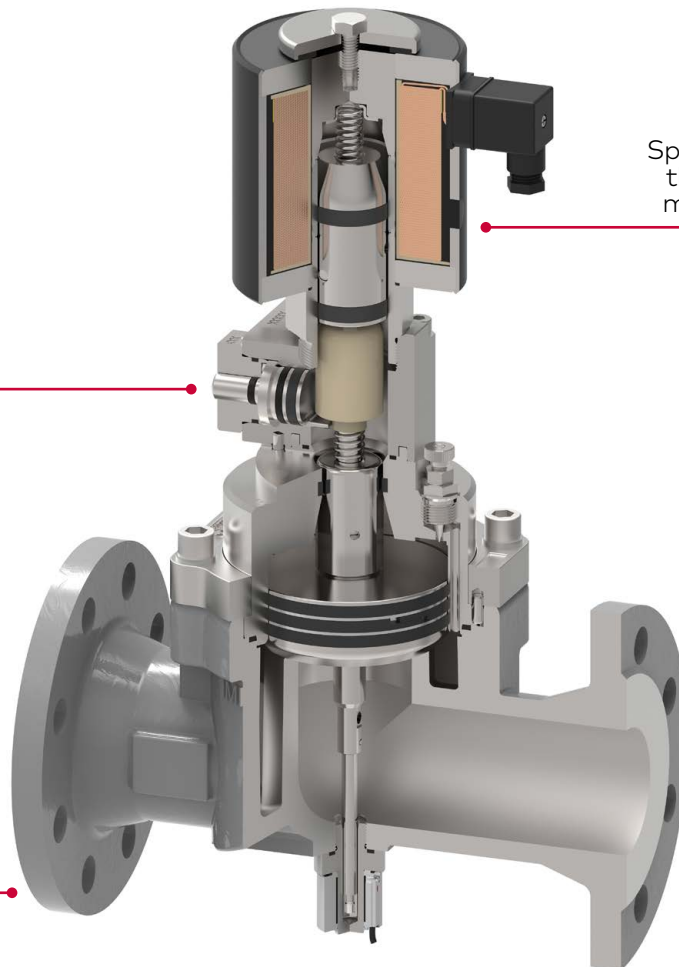
Force lifted valves with labyrinth pistons have a particular and decisive advantage: the piston's friction and resistance to motion are reduced due to the special nature of the seal. The effective force is increased in this way, leading to a significant improvement in functional reliability even under difficult conditions.



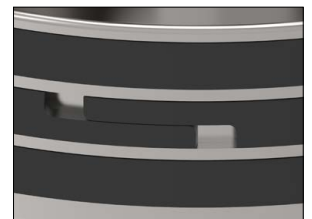
Improved manual override



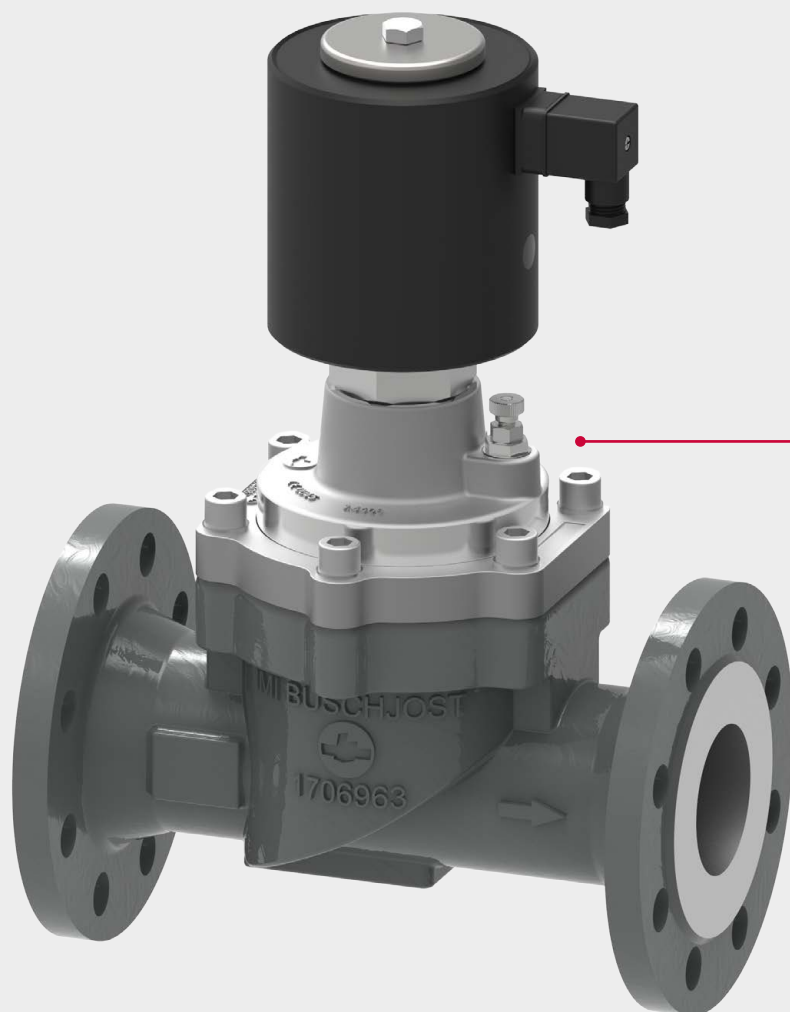
Compact position indicators for both positions (open and closed)



Spindle mechanically connected to the plunger to eliminate need for manual adjustment of the stroke



Low-friction pistons with wear-resistant labyrinth seals



New version in
Spheroidal graphite iron

Series 86480/86500

DN 65 ... DN 100

PN16 / PN40

Operating pressure 0 ... 16 bar
 0 ... 25 bar

Fluid temperature -20 ... +90 °C

Ambient temperature -20 ... +50 °C

Power consumption 80 W

New flanged valves for the process industry

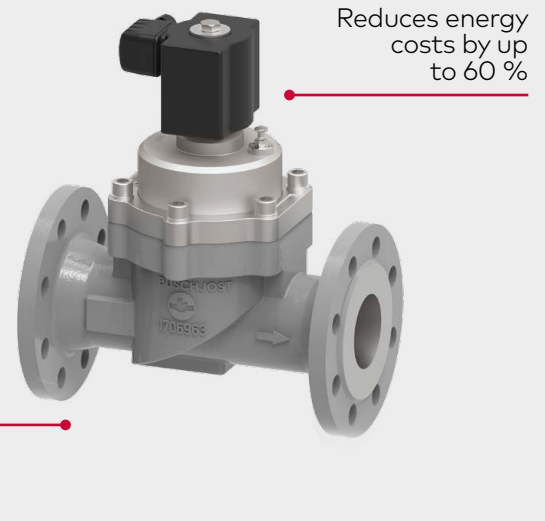
Benefits for the user:

- » Long service life
- » High functional reliability
- » Low motion resistance
- » Compact design
- » Simplified maintenance thanks to easy to mount profile seals
- » Economical solution due to modular system
- » Easy to implement explosion-proof design
- » Innovative position indicator – a sensor for both switching positions



Series 86540

DN 15 ... DN 100	
PN40 (PN16 Option)	
Operating pressure	0 ... 16 bar / 0 ... 25 bar
Fluid temperature	-20 ... +90 °C
Ambient temperature	-20 ... +50 °C
Power consumption	80 W



Reduced solenoid power consumption by electronic device

Pick-up power	80 ... 100 W
Holding power	24 ... 30 W
Solenoid 84xx instead of 95xx	

Options & variations

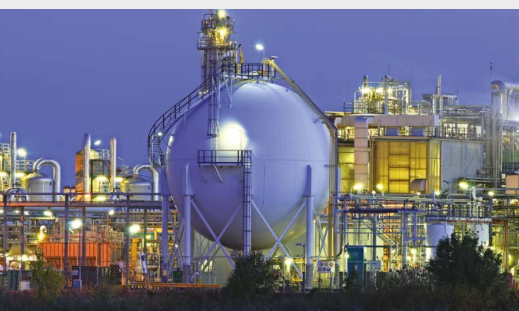
- » Normally open (NO)
- » Manual override
- » Low temperature version -40 °C
- » Ex-Solenoid 9540

Areas of application



Nuclear power plants

During steam generation in nuclear power stations, hydrogen is produced as a waste product, which is initially stored in a secure container and then discharged through the exhaust chimney into the atmosphere. Buschjost branded flanged valves regulate the hydrogen flow in this process. What is needed here are valves in nominal diameters from DN 65 suitable for use in potentially explosive atmospheres (EExdIIIT4) and which have at least a 3.1 approval certificate.



Heating up in coal-fired power stations

It takes approximately 40,000 to 60,000 litres of heating oil or 4,000 to 6,000 cubic metres of gas to heat up the boiler fire in a coal-fired power station, for example during the initial commissioning or after maintenance. Buschjost flange valves regulate the flow of the fuel to the burner. The valves with a minimum nominal diameter of DN 65 need to be explosion-proof (EExdIIIT4/5) and have SIL 2 certification.



Waste incineration plants

In waste incineration plants, vertically mounted boilers, known as water cannons, are used to clean the boiler walls. Buschjost branded flanged valves ensure the correct amount of water is injected here produced with a steam explosion. This makes it possible to remove residual particles remaining on the boiler walls and dispose of them using a conveyor belt. Valves in nominal diameters from DN 65 upwards are needed for this application.



Gas engine applications

In gas engine applications, which have to withstand extremely low temperatures down to -40 degrees Celsius, Buschjost flange valves are installed in the cooling circuits of heat exchangers. They switch to the closed position when the gas engine is shut down to slow the drop in temperature of the cooling medium. In this way, the engine needs less time to warm up when next started.



Metal production

Buschjost flange valves are also installed in the cooling circuits of metal rolling mills. Cooling processes are necessary during the different steps during which the metal is processed. These are controlled by the flanged valves.

