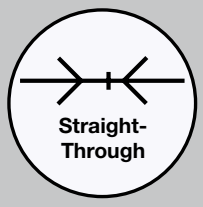
COUPLING QUICKLY AND SAFELY WITH ONE HAND.

The development of the single-hand quick connect coupling made a decisive contribution to improving work safety and functionality. In order to create a connection, the plug is simply pushed into the coupling. This causes the sleeve to spring forward and lock automatically. When uncoupling, the sleeve is pushed back with one hand and the connection is disengaged with no problem whatsoever. The following four valve designs are available for selection for different applications:

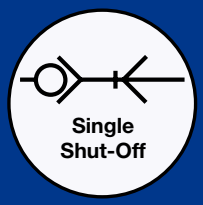
Straight-Through

These coupling systems work with no shut-off valve and therefore achieve the greatest possible flow. Furthermore, turbulence which can occur with integrated valves is completely eradicated. Straight-through couplings are ideally suited to liquid media – e.g. water applications. Before unlocking, the flow must be stopped.



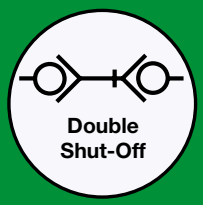
Single Shut-Off

On our single shut-off systems, the plug is designed straight-through – although the coupling shuts off immediately when the connection is broken. Appearance of on-flow media in the line is effectively prevented. An ideal solution for operating compressed air tools.



Double Shut-Off

On our double shut-off systems, after disconnection, the flow stops both in the coupling and in the plug. The medium remains in the hose in both connecting lines, the pressure is held constant and not released.



Leak-Free Design

On the coupling and plug, our leak-free coupling systems have valves that build up no dead-space volume. As such, when the connection is broken, no drops of the medium being channelled are able to escape. This variant is especially suitable for transporting aggressive media or in sensitive environments – e.g. in cleanrooms.

THE DIFFERENCE LIES IN THE VALVE.

The valve design is the linchpin of any coupling system and it is essentially responsible for the flow / pressure loss on a coupling. Depending on the medium and application, the use of a system with optimised valve technology can save a great deal of energy, e.g. in the supply to compressed air tools.

Standard-Valve

For decades, the tried and tested valve technology with its robust and compact design has served reliably in many applications. This valve design can be found e.g. in our 26KA series. At nominal diameter 7.4, a flow of approx. 1,000 l/min (air) is therefore possible.

UltraFlo-Valve

Due to less turbulence, this streamlined valve structure can increase flow by up to 80 % compared with conventional systems. This valve design can be found e.g. in our 25KA series. At nominal diameter 7.4, a flow of approx. 1,800 l/min (air) is therefore possible.

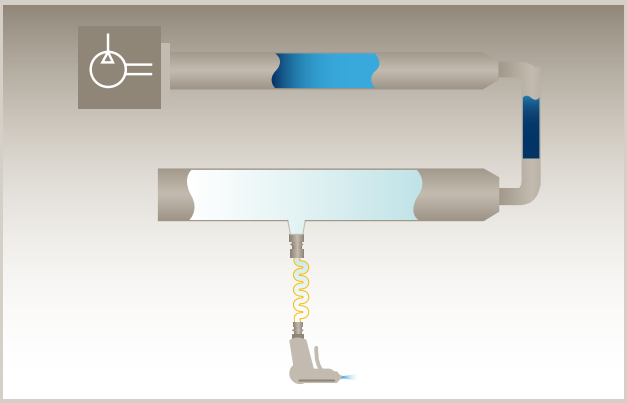
Ultra HighFlow-Valve

This extremely streamlined pipe valve optimises flow due to minimal turbulence on the extremely smooth insides and a reduced geometric change in the media flow with a constant nominal diameter and compact design. The valve springs are also separate from the flow medium and optimise the energy efficiency due to low coupling forces. This high-end valve design can be found e.g. in our 1600KA series. At nominal diameter 7.4, a flow of approx. 2,100 l/min (air) is therefore possible.

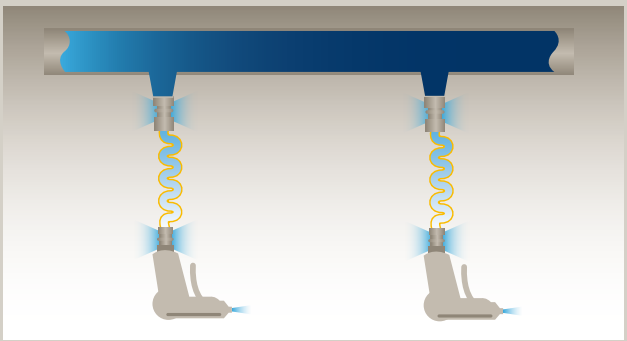
KNOW-HOW THAT SAVES HARD CASH.

In the age of rationalisation even in compressed air technology, the optimisation of systems is an important tool to improve energy efficiency. Correctly designed, complete systems from the compressor to the tool and a correctly dimensioned conduit system with no leaks save hard cash here. For over six decades now, we have devoted ourselves to the industrial handling of compressed air with professional systems and we are therefore intimately acquainted with the weak points of compressed air systems.

When planning a compressed air system, certain parameters must be kept in mind. As such, the hoses used should always be as short as possible and have the right diameter and as few coils as possible, as every metre of hose causes pressure losses. Even essentially correct, self-venting couplings sometimes differ considerably in terms of pressure loss. As such, modern systems reduce the pressure loss by at least a third, to approx. 0.2 bar, and therefore pay for themselves within a minimal period.



Incompatible Overall System
The objective evaluation of an existing system requires analysis of the actual condition of the system. The relevant parameters for this, such as volume flow, flow pressure and compressed air quality, can be recorded using professional measuring technology. Large cross-section tolerances, more couplings than necessary, too many nozzles and an incorrect hose diameter cost a huge amount of energy here. An appropriate assembly therefore always pays off, as efficient operation of the overall system is possible only if all components are in harmony.



Leaks in the Connecting Elements
The detection of possible leaks in the network can be calculated either by back-feeding during down time or, if this is not possible, from the measured pressure curves during operation. Sensitive points here particularly include the connection to the ring line and to the tool. There is a possibility of optimisation for example with the use of quick connect couplings with a valve to prevent pressure loss when uncoupling and venting the system.

YOU KNOW YOUR APPLICATIONS, WE KNOW THE RIGHT COUPLING SYSTEM!

Industrial Sectors/ Application Areas	Straight-Through KF	Single Shut-Off KA	Double Shut-Off KB	Leak-Free Design KL	Thermoplastic Couplings POM/PVDF	Stainless Steel Couplings	Safety Couplings
Compressed Air	●	●	○	○	○	○	●
Air	●	●	○	○	○	○	○
Breathing Air	○	●	●	○	○	○	●
Gases	○	●	●	●	○	○	●
Liquid Gases	○	○	●	●	○	○	●
Water*	●	●	●	●	○	○	○
Liquid Media*	○	●	●	●	●	○	●
Aggressive Media	○	○	●	●	●	●	●
Chemicals	○	○	●	●	●	●	●
Machinery/Systems Manufacturing	○	●	○	●	○	○	●
Welding	○	●	○	○	○	○	○
Molding	●	●	●	○	○	○	○
Automation	○	●	○	○	○	○	○
Robotics	○	●	●	●	○	○	○
Textile Industry	○	●	○	○	○	○	○
Medical Equipment	●	●	●	●	●	●	●
Food and Beverage Industry	○	○	○	○	●	●	○
Chemical Industry	○	○	●	●	●	●	●
Pharmaceutical Industry	○	○	●	●	●	●	●
Laboratory	○	●	●	●	●	●	●
Analysis Technology	○	○	●	●	●	●	○
Steel Manufacturing	○	●	○	○	○	○	●
Rafineries	○	○	●	●	○	●	●
Paper Production	○	●	●	○	○	●	○
Rescue and Safety	○	●	●	●	○	●	●
Aerospace Technology	○	○	○	○	○	●	●
Shipyards	○	●	●	○	○	●	○
Semiconductor Technology	○	○	●	●	●	●	○
Laser Technology	○	○	●	●	○	●	○
Nuclear Power	○	○	●	○	○	●	●

* only systems with valve and sleeve made of brass

SEALING AND ACCURACY.

A coupling system is always as good as its sealing components. That is why we only use top quality, proven standards, which have been tried and tested time and again.

For special applications, please also ask our specialist advisers, as an important criterium for functionality of an O-ring is the type of medium in relation to its temperature.

The most important sealants

Sealing-Material	Brand	Temperature-Range	Features
NBR Acrylonitrile-Butadiene Rubber	Buna N	-20°C - +100°C	Can be used for compressed air. Resistant to heat and many liquids, e.g. mineral oils, fuel (no environmental diesel), water glycol and grease.
EPDM Ethylene Propylene Diene Rubber		-40°C - +150°C	Heat resistant and specially suited to hot water and steam. Good resistance to brake oils, glycol and fire-resistant oils. Not suitable for mineral-based oils and petrol.
FKM Fluorocarbon Rubber	Viton® [1]	-15°C - +200°C	Very high resistance to heat and liquids inc. petrol, oils, environmental diesel, grease and aromatic oils.
FFKM Perfluoro Rubber	Kalrez® [2]	-25°C - +240°C	Universal chemical resistance, good for aggressive media, high thermal resistance. Lowest source values for all media.

[1] Viton® is a registered trademark of DuPont Dow Elastomers.
[2] Kalrez® is a registered trademark of DuPont Dow Elastomers.

RectuLoc

This innovative sealing method is available for all standard shut-off products with a tapered external thread. It consists of a sealant applied directly to the thread. The connection is simply merely screwed in and can be readjusted with no leakage even after several hours. It reliably seals against gases as well as aqueous and non-aqueous liquids up to 150 bar and temperatures up to 120 °C and it is moreover also resistant to aggressive media.

Captive Washer

This permanently fixed sealing ring in robust polymer is available for all standard shut-off products with a cylindrical external thread. The connection is screwed as usual and reliably sealed by the ring, even in the case of readjustment. The seal is suitable for gaseous as well as aqueous and non-aqueous media up to a pressure of 150 bar and up to a temperature of 120 °C as well as being resistant to aggressive media.

ALWAYS A SUITABLE PLUG.

Plug Profil: ISO 6150 B
Standard-Series

Self-Venting Series

23SF
23KA/24KA
1400KA/1423KA
24KE/1400KE

30SF
30KA

37SF
37KA

Plug Profile: ISO C
Standard-Series
Self-Venting Series

303SB
303KB

18SF
18KA
18KE

84SF
84KA

Plug Profile: Europe
Standard-Series

Self-Venting Series

20SF
20KA

21SF
21KA

25SF*/26SF**
25KA/26KA/1600KA
1625KA
25KE/26KE/1600KE

27SF
27KA/1700KA
1727KA
1700KE

* Steel zinc plated
** Brass

Plug Profile: Walther
Standard-Series

50SF
50KA

51SF
51KA

52SF
52KA

57SF
57KA

Plug Profile: Scandinavia
Standard-Series

1100SF
1100KA

1300SF
1300KA

1800SF
1800KA

1900SF
1900KA

2100SF
2100KA

Plug Profile: Asia
Standard-Series

13SF
13KA

Plug Profile: Atlas Copco
Standard-Series

33SF
33KA

34SF
34KA

Plug Profile: Aro

22SF
14KA/22KA
14KE

Plug Profile: UK
Standard-Series

17SF
17KA

19SF
19KA

actual products.