

Operating instruction english

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This operating instruction is not subject to the updating

Ball-Face Clean-Break-Coupling

1-BF-005-0-.....-..

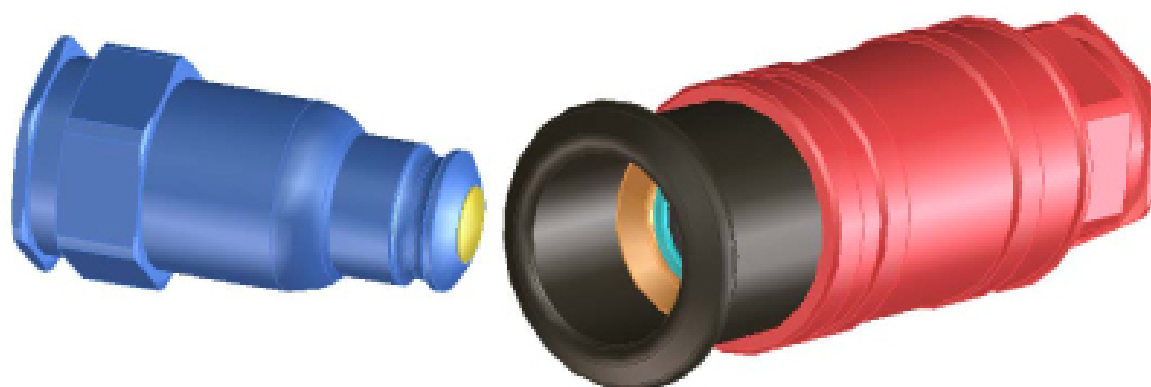
1-BF-005-2-.....-..

1-BF-009-0-.....-..

1-BF-009-2-.....-..

1-BF-012-0-.....-..

1-BF-012-2-.....-..



optional feature:

EX

Vor Beginn aller Arbeiten
Betriebsanleitung lesen!

*Read operating instruction
before beginning of all works!*

Betriebsanleitung immer
AUFBEWAHREN!
griffbereit am Gerät

*Always KEEP operating
instruction! In a ready hand
way at the device*

Achtung: Vor Inbetriebnahme
Gerät auf mängelfreien Zustand
und technisch einwandfreie
Funktion kontrollieren.

*Caution: Before starting-up
check device on faultless
condition and technically
perfect function.*

Das Original ist die
deutsche Fassung

*The German version
is the original*

This coupling is a quality product, in which special attention has been paid to high functionality, ease of operation, safety and reliability. As an item of technical equipment this tool-changer is intended for use in the commercial, industrial area and for operators, who have been trained by specialists in the handling of technical systems / tools.

Customer care:

As part of our individual customer care we will be happy to assist you in questions relating to use and operation and on any problems encountered.

Service and maintenance:

In order to maintain the high technical performance capability and reliability of your docking system over many years, we recommend regular inspection and maintenance.

We can thereby offer you optimum support by our Customer Service department and the conclusion of a service and maintenance contract.

Please ask for a quotation.

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2 General

This manual contains all regulations for operation, commissioning and maintenance of the locking coupling elementcoupling.

All information and notes in this operating manual were collated while taking into consideration the valid regulations, the current engineering related status of development as well as our many years of experience and acquired knowledge.

Translations of this operating manual were also produced according to the best of knowledge. However, we cannot assume liability for any translation errors. The German version provided for this operating manual is considered the authoritative version.

The actual scope of delivery can deviate from the explanations and graphic representations described herein under certain circumstances, e.g. in the case of special designs, utilization of additional order options or because of state-of-the-art technical alterations.

If you have any questions, please contact the manufacturer.



This operating manual must be read carefully before starting work on or with the equipment, in particular before commissioning!

The manufacturer assumes no liability for damage or faults arising from non-compliance with the instructions in this operating manual.

The operating manual must be kept directly with the equipment and be accessible to all persons who work on or with the equipment.

It is not permitted for the operating manual to be passed to third parties and if applicable this will incur damage compensation.

All other rights reserved.

Before commissioning the device must be checked for being not defective and its technically perfect function.

The German version is the original.

We reserve the right to make technical alterations to the product within the context of improving the usage properties and further development.

The operating manual remains our property.

Any reproduction, use by or communication to third parties incurs a penalty and will be pursued by court action (copyright law against unfair competition, BGB [German Civil Code]).

All rights reserved in the case of a patent award (Paragraph 7, Section. 1 of the patent law - PG) or entry as a patented design (Paragraph 5, Section 4 of the patented design law - GMG).

3 Warranty

The warranty conforms to:

the "General Conditions for Delivery and Capacity" of C.K. Walther GmbH & Co. KG of the state which was valid at the date of the purchase contract and

the regulations agreed in the purchase contract.

Wearing parts are generally excluded from the warranty.

Typical wearing parts of products from company C.K. Walther GmbH & Co. KG are for example:

- seals
- springs

Safety instructions

4 Safety instructions

Using these couplings does not release the customer from his obligation to comply with the pertinent work safety regulations e.g. operational safety regulations, etc. The duty to take due care by the operator of the couplings includes planning measures to ensure proper operation and monitoring their implementation.

Hazard notes

If the wrong product has been selected or if there is improper use or maintenance has been omitted, then hazards arise and personal injuries and material damage can occur from:

- hazardous emission of fluid or individual particles/coupling parts.
- function impairments of connected systems or tools.
- the metal parts of coupling and adaptor are not thermally protected. In case of high media temperatures the contact with these parts can lead to combustion. According to the ambient temperature valve handle and ring grip can also become very hot. For that reason sufficiently long protective gloves must be worn in these cases.

The operator must in particular make sure that

- the couplings are only used according to the intended purpose.
- the couplings are only operated in a perfect, functioning condition.
- the operating manual is always in a legible condition and is available in its entirety to operating personnel.
- the operating personnel are sufficiently acquainted with the working method and the safety notes for the coupling.
- no safety devices must be removed and/or deactivated during operation of the couplings.
- before installing or dismantling the couplings, you have made sure that the couplings have not been pressurized.

After completing assembly and installation work and before commissioning the coupling, the following items have to be observed:

Check once again that all screw connections are securely fitted.

Before commissioning the couplings, a function test must be carried out (see maintenance and function test).

Product description of the self sealing coupling

5 Product description of the self sealing coupling

The coupling connection comprises:

one clean break-coupling and one clean break adaptor	1-BF-005-0-.....-... 1-BF-005-2-.....-...-
one clean break-coupling and one clean break adaptor	1-BF-009-0-.....-... 1-BF-009-2-.....-...-
one clean break-coupling and one clean break adaptor	1-BF-012-0-.....-... 1-BF-012-2-.....-...-

If both coupling halves are not connected both coupling halves, if necessary, should be protected against external contamination and/or damages.

For this purpose dust cap and dust plug are available.

Possible combinations:

clean break coupling with dust plug	1-BF-0..-0 1-BF-0..-6
self sealing adaptor with dust cap	1-BF-0..-2 1-BF-0..-5

5.1 Intended use

- The clean break coupling is used to connect two lines.
- It is to be recommended to arrange the adaptor stationary and the coupling at the hose. If the adaptor must be assembled at the hose a protected parking position (hang up hose with adaptor with hanger or eye or parking in the receptacle) is to be preferred to a parking (disconnected state) on the floor.
- The connection and disconnection process is carried out by hand, when connecting additionally with an automatic lock.
 - I.e. the locking sleeve is after the disconnection always in the ready to lock position and locks automatically after the insertion of the adaptor into the coupling.
 - The locking sleeve must **not** be retracted with the second hand for connection.
- Squirt free connection and/or disconnection is possible in case of smallest air inclusion quantities and/or leakage quantities.
- The clean break coupling was primarily developed for applications in the chemical industry. It is used for:
 - non lubricating process liquids
 - e.g.: demineralized water
 - "dry" gases
 - solvents

Product description of the self sealing coupling

lubricating media
 e.g.: oils
 soap solutions.

- Consult with Walther-Präzision for all other possible uses.

5.2 Technical data

- The working pressures of the coupling depend on the component materials.
- When determining the working pressures with standardized threaded connections, the highest permissible working pressure of the connection must be taken into consideration.
- When selecting a suitable connection the following maximum static pressure is possible:

Working pressure (static) stainless steel

	NW 5	NW 9	NW 12
connected	64	64	64
disconnected adaptor	64	64	64
disconnected coupling	64	64	64

Working temperature

NW 5	NW 9	NW 12
-10°C bis +200°C	-10°C bis +200°C	-10°C bis +200°C

Cv flow coefficient (following the DIN IEC 534)

	NW 5	NW 9	NW 12
Coupling -> Adaptor	0.72 - 0.81	3.37 - 5.04	5.35 - 8.22
Adaptor -> Coupling	0.70 - 0.84	3.24 - 5.11	5.65 - 9.30

Displacement volume (until beginning of the flow)

	NW 5	NW 9	NW 12
Nippel	ca. 0,02cm ³	ca. 0,12cm ³	ca. 1.60cm ³
Kupplung	ca. 0,13cm ³	ca. 0,20cm ³	ca. 1.80cm ³

Displacement volume (until beginning of the flow)

NW 5	NW 9	NW 12
ca. 0.75cm ³	ca. 6.20cm ³	ca. 15.80cm ³

Connectable up to pressure increases

	NW 5	NW 9	NW 12
Nippelseitig auf	64 bar	12 bar	7 bar
Kupplungsseitig auf	25 bar	6 bar	3 bar

Product description of the self sealing coupling

Inclusion when connecting

NW 5	NW 9	NW 12
ca. 0.011cm ³	ca. 0.078cm ³	ca. 0.125cm ³

Theoretical leakage quantity when disconnecting

NW 5	NW 9	NW 12
ca. 0.013cm ³	ca. 0.091cm ³	ca. 0.150cm ³

- The coupling is not determined for any types of use and technical values other than those listed in this product description.
- Safe operation is not guaranteed if the coupling is used contrary to its intended use and technical values.
- The operator of the coupling is responsible for all personal injuries or material damages that occur from non-intended use and disregard of the technical values; the manufacturer assumes no responsibility in these cases.

5.3 Optional Features

EX = ATEX – version

Product description of the self sealing coupling

5.4 Extended product description for application acc. to ATEX-guide line 94/9/EG (special design EX):

5.4.1 General

Only non-sparkling materials may be used.
Non-sparkling materials are 1.4404, 1.4571 or equivalent materials.
Furthermore brass with different surfaces (f. ex. chrome-plated, nickel-plated).

Further on it must be assured that the seal is resistant against and suitable for the flowing through media. Also the temperature resistance of the seals must be guaranteed. This must also be considered for the marking acc. to chapter 5.5.2.

5.4.2 Extended marking

The coupling fittings are marked with



As the surface temperature of the self-sealing couplings are determined by the temperature of the fluids, the temperature category or the highest surface temperature must be specified by the operator while the safe temperature distances acc. to EN 13463-1 must be observed and the maximum temperature resistance of the coupling materials and seals are taken into consideration.

The marking of the temperature class must be effected readily visible by the operator.

The determination of the temperature class must be made acc. to the following table:

Max. temperature of fluids	Temperature class
75	T6
90	T5
130	T4
195	T3
295	T2
445	T1

The couplings are not admitted for the temperature classes T1 and T2 and may not be marked for that by the operator.

Installation instruction

6 Installation Instruction

6.1 General

Subject to the general accident prevention regulations coupling is to be installed into a network in such a way that:

- a satisfactory operation is guaranteed according to the operating instruction .
- first of all the coupling is used on line side and the adaptor on consumer side
- external damage of the unit as well as all moving parts are excluded.

Before coupling and the adaptor are installed at a pipeline network make sure that the pipeline network is sufficiently rinsed/blown out and/or cleaned.



After the assembly works are finished a functional test is to be carried out with both, without pressure and under working pressure of the media elements according to operating instruction.

6.2 Extended installation instruction for application acc. to ATEX-guideline 94/9/EG

6.2.1 Details for safe operation

For the use of self sealing couplings as a hose connection it must be guaranteed that in case of pressure strikes the tumbling of the self sealing coupling can be avoided by fixing at suitable constructions. In principle it must be observed that the self sealing coupling cannot strike on hard objects which could produce strike sparks when touching the housing.

6.2.2 Details for safe installation

The self sealing couplings may only be connected to pipe- and hose systems which are suitable for electrostatic discharge and which are connected to the ground potential.

6.2.3 Details for a safe application area

The self sealing couplings may be used according to the class of devices 2 in areas susceptible to explosions where potentially explosive mixtures of gas, steam, mist and air are available.

Operating instruction

7 Operating Instruction

In order to avoid critical injuries of the staff and damage at the self sealing coupling during operation, coupling may be only used for the stated applications.

7.1 Coupling process (Coupling at the hose)

Take coupling at the hose or at the grip sleeve and slide it onto the adaptor.



If the coupling axis does not align to the adaptor axis (inclined approach) the coupling can be centered with some feeling.



The coupling is finally slid on until mechanical end stop. In doing so the locking sleeve jumps audibly and sensibly some mm to the front (into the direction of the adaptor) and the coupling is connected and safely locked.



7.2 Disconnection process (Coupling at the hose)

Take coupling and/or hose and hold it on. Simultaneously slide back locking sleeve at the gripping shoulder. The coupling jumps from the adaptor. Then deposit hose with coupling and protect both as far as possible against dirt and damage.



Operating instruction

7.3 Connection process (Adaptor at the hose)

Take the hose close to the adaptor and insert the adaptor into the coupling as described before. The locking sleeve jumps audibly and sensibly some mm to the front (in the adaptor direction) and the coupling is connected and safely locked.

7.4 Disconnection process (Adaptor at the hose)

Take the hose close to the adaptor and hold it. In doing so slide back locking sleeve into the direction of the coupling. The adaptor jumps out of the coupling. Then deposit hose with adaptor and protect both as far as possible against dirt and damage.

7.5 Cleaning and maintenance

Coupling and adaptor are precision parts und must therefore be protected on the sealing surfaces against damages. Greasing and oiling are not necessary for a good function. The application of resinous lubricants can lead to malfunctions and must therefore be refrained.

Coupling and adaptor have smooth surfaces as far as possible and thus they are easily to be cleaned. The cleaning should be done by rinsing, blowing off and wiping. When cleaning the adaptor it is to be considered that the adaptor valve is not unintentionally pushed open in case of included dangerous media.

To wipe the ball face front contour of the coupling the locking sleeve of the coupling can be brought into a pushed back cleaning position (see pictures).



Locking sleeve in normal position
in front (in ready to connect position)



Locking sleeve pushed back
(in cleaning position)

To bring the locking sleeve back into the cleaning position a pressure point must be overcome. Especially with regard to higher nominal bores this happens positively through an easy blow with the flat hand onto the front surface of the coupling and/or locking sleeve.



For safety reasons it is not possible to connect the coupling with pushed back locking sleeve (only cleaning position).

Maintenance and Functional instruction

8 Maintenance Instruction

Preventive maintenance measures

WALTHER self sealing couplings are to be operated in such a manner that external damages to elements and all moving parts are avoided.

8.1 Maintenance and functional test

In order to always guarantee function of the self sealing coupling and hence safety of operator, a maintenance and functional testing must be made in appropriate periods of time depending on operating conditions.

In order to minimize operating forces and to extend service life of the self sealing coupling we recommend to slightly grease plug surfaces (see item 9.0).

8.1.1 Maintenance includes following items:

- A visual inspection of self sealing coupling and self sealing adaptor regarding damage and contamination has to be made.
- Dirt at the functional area (sealing area, operating elements) which is easily accessible from outside should be removed by simply wiping-off.

If there are damaged, torn or corroded parts, coupling must be dismantled and returned to manufacturer for repair.

If worn or embrittled seals are found or if there is extreme dirt, the customer can decide whether he returns coupling unit to the manufacturer's factory or whether he repairs himself.

8.1.2 Functional test includes following items:

As described in the operating instruction, coupling is several times connected, pressurized and then disconnected.

In doing so, the following has to be observed:

- Connection and disconnection process must be absolutely smooth.
- Coupling must be absolutely leak-proof in connected and disconnected state.

If there are damaged, torn or corroded parts, coupling must be dismantled and returned to manufacturer for repair.

If worn or embrittled seals are found or if there is extreme dirt, the customer can decide whether he returns the coupling unit to the manufacturer's factory or whether he repairs himself.

9 Lubrication !

See operating instruction (see point 7).

10 Storage

The couplings must be stored in such a way that no damages can occur at the couplings.

The storage conditions of the couplings must comply with the guidelines for the seals as these can change in properties due to improper storage.

The following items must be kept:

- The couplings must be stored dry.
- To safely conserve the seals and that means also the couplings they should not be stored under the effect of daylight.
- For protection against oxygen the seals and also the couplings shall be stored into the packing.

11 Shut-down

At the end of the service life the coupling or its components have to be disposed non-polluting and according to the legal regulations.

For that the local public or private disposal societies should be taken.

12 Order number code

1. 2. 3. 4. 5. 6. 7. 8. 9.
 X - XX - XXX - X - XXXXXX - XX - X - XXX - XX
 X - XX - XXX - X - XXXXXX - XXXXX - XXX - XX

1. Subject group
2. Series
Series description consists of either two letters or two digits.
3. Nominal size / nominal width
It is rounded up or rounded down to full units.
The indication can be numerical or alphanumeric.
4. Type of product and design
5. Type of connection
6. Material:
xx-x and xxxx possible
7. Material (seal version):
xx-x and xxxx possible
8. Y- or Z-design
9. Optional features

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