

4.5 Displacement of the Couplings

The displacements indicated in the table, offer sufficient safety to compensate for environmental influences like, for example heat expansion or lowering of foundation.

In order to ensure a long lifetime of the coupling is necessary to pay a best attention to the alignment

It is absolutely necessary that during the use in hazardous areas, the misalignment values indicated in table should be respected.

If this values are not respected, the coupling is considered damaged.

In case of a use in hazardous areas for the explosion group IIC (marking II 2G c) is permissible only the half displacement indicated in the table.

4.5.1

SIZE	7	9	14	19	2	428	38	42	48	55	65
M	8	10	13	16	18	20	24	26	28	30	35
KA	0.6	0.8	1	1.2	1.4	1.5	1.8	2	2.1	2.2	2.6
KW	0.1	0.13	0.15	0.15	0.18	0.20	0.17	0.19	0.23	0.24	0.25
KR	1	1	1	1.1	1.1	1.3	1	1	1	1	1

KA = Axial Misalignment (mm) KW = Angular Misalignment (°) KR = Radial Misalignment (mm)

5. Enclosure ATEX

Hints and instructions regarding the use in hazardous areas.

5.1 Control and maintenance for utilize in hazardous areas GROUP II 2GD c

5.2 Spider control

The wear control of the flexible spider must be effected after 2000 hours of work for the first time and then after 3 months starting from the utilize. If you note an unconsiderable or no wear at the spider after this first inspection, the further inspection can be effected, in case of the same operating parameters, respectively after 4000 operating hours or after 12 months at the leatest.

If you note a considerable wear during the first inspection, we recommend you to change the spider with another ATEX spider.

In case of a backlash of more than Z max (mm), the flexible spider must be replaced with another ATEX spider.

The reaching of the replacement values depends on the operating conditions and the existing operating parameters

5.2.1

SIZE	7	9	14	19	24	28	38	42	48	55	65
Z (mm)	1	1	2	3	3	3	3	4	4	5	5

5.3 Marking of coupling for the hazardous areas

Couplings for the use in hazardous areas are marked, where is possible, for the respectively permissible condition of use, as following indicated :

SIT Spa 20143 MILANO ITA
TRASCO ES 28/38
TÜV 03 ATEX 2371X



CE II 2 GD c
-20°C < Ta < +80°C A4

5.4 Starting

Before putting the coupling into operation, please check :

The tightness of the hub's set screws

The alignment

The right distance between hubs

Using in hazardous areas, the setscrews must be additionally secured against self-loosening to fix the hub with Loctite (medium strength)

Guarantee grounding

Fender for couplings in hazardous area

The couplings for hazardous area, must be provided with firm coverings (if possible, made from stainless steel) protecting the couplings against falling objects.

There can be regular openings in the coverings which may not exceed the following dimensions : side parts max 8 mm, top surface max 4 mm

The distance between the cover and the rotating parts must be at least 5 mm (up and down) (right and left)

The cover must be electrically conductive and be included in the admitted values of regulations.

The covers made in aluminium and NBR can be used between pump and electro motor if the magnesium part is below 7,5%.

The cover may be removed only after stopped the unit.

During operation, please pay attention to :

- Strange running noises
- Occurring vibrations

5.5 Conformity Declaration

CONFORMITY DECLARATION

Corresponding to EG Standard 94/9/CE dated 23 March 1994
And to legal regulations

The manufacturer SIT S.p.A: Via G. Watt n°15 20143 Milano
States that the :

Flexible coupling TRASCO ES

Describe d in these mounting instructions are in accord of Standard
94/9/EG They correspond of Standard EN 13463-1 -5.

The couplings are certified by Conformity Declaration n° :

TÜV ATEX 2371X- II 2 GD c

The production was certify by Enclosure IV from :

TÜV NORD CERT GmbH & Co KG

Am TÜV 1

30519 Hannover

Milan 15.01.04

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MANUALE N° ATEX/116.00

COUPLINGS

TRASCO ES ATEX

MOUNTING INSTRUCTION



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TRASCO ES is a coupling very precise without clearance for axial, angular and radial displacements.

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1.1 Description
The Trasco® ES consists of two hubs, which are either made of high-strength aluminum (up to the 38/45 size) or steel (from size 42) that are connected with an elastic element.
The hubs are obtained by an accurate machining, in order to achieve extremely precise dimensional characteristics.
The elastic element, which is made of a special polyurethane mixture that was developed after considerable research and laboratory testing, is press-formed by a process which guarantees a high degree of dimensional accuracy.
The element is available in 3 different hardnesses: 92 Sh. A (yellow), 98 Sh. A (red), 64 Sh. D (green).
Other element hardnesses are available on request to meet special operating conditions, such as high temperatures and/or high torques, and for providing a high degree of vibration-damping capability. Please contact our Engineering Office for help in selecting the appropriate element hardness.

1.2 Operating
When the polyurethane element is installed in its special seats between the hubs (Fig. 2), it becomes precompressed, thereby providing the zero backlash feature which characterizes the transmission performance of this coupling.
With zero backlash, the coupling remains torsionally rigid within the range of the precompression load, but does permit the absorption of radial, angular and axial misalignments as well as undesired vibrations. The significantly wide precompressed area of the flexible element keeps the contact pressure against the elastic element low. Therefore, the element teeth can be overloaded many times without undergoing any wear or taking a permanent set.
Engage temperature –20°C + 80°C.

1.3 Excution
1.3.1 Standard version
The hubs of the standard coupling type can be either solid or have a finished bore, the diameter of which corresponds to any one of the standard shaft diameters. The grubscrew(s) is (are) located 180° from the key seat - ex. 02 (120° each other - ex. 01).
Both the solid hub and bored hub coupling are generally available from stock for quick delivery.
1.3.2 With clamp hubs
This type of coupling permits quick, sure fixing without any shaft-hub backlash.
With the keyless coupling type, the torque applied for tightening down the screws (Ms) must be as given in the table.
The M coupling type is available with or without keyway.
1.3.3 Shrink disc execution
This type of coupling provides excellent kinetic uniformity. Furthermore, the absence of keys or grubscrews, makes it a very well balanced coupling and greatly facilitates installation and removal. An exact radial/ axial positioning is very easy for those applications which requires it. The absence of keyways also avoids fretting corrosion and backlash between the shaft and the hub.
This is the ideal type of coupling for applications requiring precision and/or high rotational speeds.

2.1 General Hints
Please read through these mounting instruction carefully before you set the coupling into operation. Please pay special attention to the safety instructions.
The TRASCO ES coupling is approved for the use in hazardous areas.
When using the coupling in hazardous areas please observe the special hints and instructions regarding safety in enclosure ATEX point 5.
The mounting instructions are part of your product, Please keep them carefully and close to the coupling.
The copyright for these mounting instruction remains with SIT SPA.

2.2 Proper use
Unauthorized modifications on the coupling design are not admissible. SIT do not take any warranty for resulting damages.
To further develop the product we reserve the right for technical modifications.
The TRASCO ES described in here corresponds to the technical status at the time of printing of these mounting instructions.

2.3 Performances
Tkn = Nominal Torque (Nm) / (Tkmax = 2 x Tkn)

SIZE	YELLOW		RED		GREEN	
	Tkn	Rpm	Tkn	Rpm	Tkn	Rpm
7	1.2	40000	2	40000	2.4	40000
9	3	28000	5	28000	6	28000
14	7.5	19000	12.5	19000	16	19000
19/24	5	14000	10	14000	17	14000
24/28	17	10600	35	10600	60	10600
28/38	46	8500	95	8500	160	8500
38/45	190	7100	325	7100	405	7100
42	265	6000	450	6000	560	6000
48	310	5600	525	5600	655	5600
55	410	5000	685	5000	825	5000
65	900	4600	1040	4600		

3. Storage
The coupling hubs are supplied in preserved condition and can be stored at a dry and roofed place.
It is very **IMPORTANT** that the storage rooms may not include any ozone-generating devices, like e.g. fluorescent light sources, mercury-vapour lamps or electrical high-voltage appliances.
The best relative air humidity is under 65%.
In case of favourable stock conditions, the coupling spider (elastomer) remain unchanged for up to 6 years.
4. Assembly
Basically the coupling is supplied in individual parts.
Before assembly the coupling has to be controlled for completeness.

4.1 Components
The TRASCO ES “standard version” is supplied with 2 hubs 1 spider and 2 screws.
The TRASCO ES “clamp hubs” is supplied with 2 hubs 1 spider and 2 screws.
The TRASCO ES “shrink disc execution” is supplied with 2 hubs 2 ring 1 spider and same screws.

4.2 Hub production
It is IMPORTANT that for all materials, you do not exceeded in maximum permissible bore diameter .
This diameter is for **A**” hubs execution the first number in the size and for **B**” hubs execution the second number in the size.
If this value is not respected, the coupling can be crash and during rotation may cause serious danger.
Hub bores machined by the customer have to observe concentric running or axial running, respectively as indicated in IT8 general tolerance.

4.3 Screw position and size
The distance is from the external hub's side

SIZE	7	9	14	19	24	28	38	42	48	55	65
BORE	M3	M3	M4	M5	M5	M6	M8	M8	M8	M10	M10
DISTANCE	/	/	/	10	10	15	15	20	20	20	20
TORQUE	1.4	1.4	1.5	2	2	4.8	10	10	10	17	17

Screw / Distance (mm) Torque (Nm)

4.4 Assembly of the Hub
4.4.1 Standard version
Before to begin the assembly of the Hubs, we recommend to check bores diameter, shafts, screwed, etc.
Heating the hubs slightly (approx 80°C) allows for an easier installation on the shaft.
In case of use in hazardous areas (Ex), please verify the injection temperature.
During the assembly of the hubs, we recommend to wear safety gloves in order to avoid burns
Be sure that the distance M (see table 4.5.1) should be correct.
Assemble the hubs on the shafts
Move the coupling in axial direction since reaching of M dimension
Fasten the hubs by tightening the setscrews before mentioned.
4.4.2 Shrink disc execution
Before to begin the assembly of the Hubs, we recommend to check bores diameter, shafts, screwed, etc.
Check bores and shafts. They must be clean and without rust.
- Do not use oil and grease with bisolfuro di molibdeno
- Turn off the screws and move the ring
- Assembly the hub on the shaft
- Turn on the screws alternately since the torque screw indicated