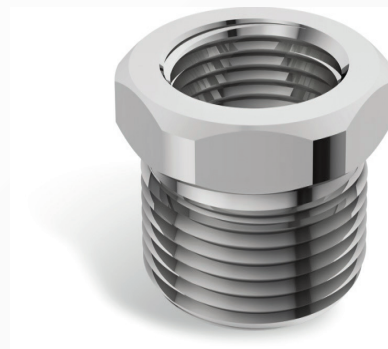


HARDO.

INSTALLATION INSTRUCTIONS



Adaptor and Reducer **HAD & HRD**

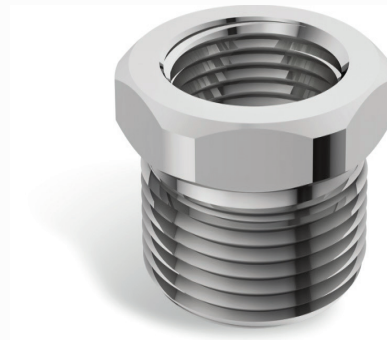
Release date	18.08.2022	The revision no.	0.0
The instruction no.	H-2022-HADHRD	Revision date	
Approved by	Robert Bodzioch		

Adaptor and reducer for use in explosive atmospheres to change the size, type or gender of threaded component.



Adaptor

Female thread size is the same size or larger than the male thread



Reducer

Female thread size is the same size or larger than the male thread

Technical data

Type	HAD Adaptor and HRD Reducer
Ingress Protection	IP66 / IP68 (1.5 Mtr, 2 Hrs)
Material of Construction	Brass (CuZn39Pb3), Stainless Steel (304 or 316L)
Explosion Protection	db, eb & tb Ex db IIC Gb, eb IIC Gb, tb IIIC Db
Certificate No.	IECEX DNV 22.0091X DNV 22 ATEX 62580X

Important

Installation should only be performed by a competent person using the correct tools. Read all instructions carefully before beginning the installation.

Confirmity of Standard

Glands discussed in this manual are designed, manufactured & tested in accordance to ISO 9001 and IEC 80079-34 quality standard.

The proper fulfils requirements of Atex Directive 2014/34/EU and standard EN/IEC 60079-0 , EN/IEC 60079-1, EN/IEC 60079-7,EN/IEC 60079-31 & EN/IEC 60529.

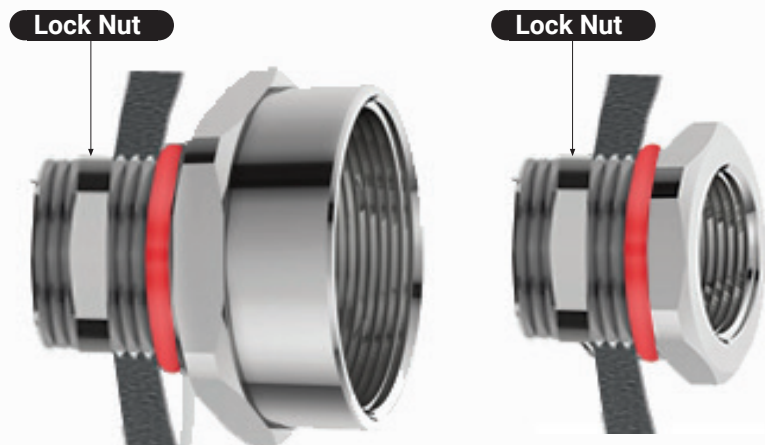


Installation

The pertinent national regulations, safety guidelines and general recognised rules of engineering are applicable for installation and operation. Standard IEC 60079-14 shall be observed.

- Ensure the male thread type and size of the insulated adaptor is compatible with the enclosure thread.
- Maintaining IP66/67/68 rating in order to maintain IP rating of the component eight full threads of metric and five full threads of NPT should be attained. The surface of the enclosure should be clean and free from dust or moisture before assembly. In order to maintain IP66/67/68 the installer must ensure that the O-Ring is seated in the groove provided.
- In order to maintain the integrity of the enclosure it is important that an installation torque as detailed above should be applied.
- The Lock Nut is strictly not allowed to be used from outer side of the enclosure and allowed to use only from the inner side of enclosure.

Alternative installation through an unthreaded entry. If the apparatus is untapped use a Lock Nut.



Selection

- All products should be selected in accordance with all relevant standards and codes of practice.
- Ensure that the product is certified to the same level of protection as the equipment to which it is to be installed.
- Ensure that the correct thread form and size is selected for the cable and/or entry hole of enclosure.
- Ensure that the material the product is manufactured from is suitable to the enclosure material and cable gland and also the surrounding environmental conditions.
- Ensure that surrounding conditions do not exceed the operating temperature stated in the product information table.
- Ensure that the product can maintain the same ingress protection levels as the equipment to which it is to be installed.

HAD-ADAPTOR

Tightening Torque Value For Metric Adaptor

Sr. No.	Thread Size Metric	Tightening Torque Value
1	M20x1.5	40 Nm
2	M25x1.5	55 Nm
3	M32x1.5	65 Nm
4	M40x1.5	80 Nm
5	M50x1.5	100 Nm
6	M63x1.5	115 Nm
7	M75x1.5	140 Nm
8	M90x1.5	170 Nm
9	M100x1.5	190 Nm

Tightening Torque Value For NPT Adaptor

Sr. No.	Thread Size NPT	Tightening Torque Value
1	3/8" NPT	90 Nm
2	1/2" NPT	90 Nm
3	3/4" NPT	90 Nm
4	1" NPT	113 Nm
5	1.1/4" NPT	113 Nm
6	1.1/2" NPT	113 Nm
7	2" NPT	181 Nm
8	2.1/2" NPT	181 Nm
9	3" NPT	181 Nm
10	4" NPT	181 Nm

HRD-REDUCER

Tightening Torque Value For Metric Reducer

Sr. No.	Thread Size Metric	Tightening Torque Value
1	M16x1.5	40 Nm
2	M20x1.5	40 Nm
3	M25x1.5	55 Nm
4	M32x1.5	65 Nm
5	M40x1.5	80 Nm
6	M50x1.5	100 Nm
7	M63x1.5	115 Nm
8	M75x1.5	140 Nm
9	M90x1.5	170 Nm
10	M100x1.5	190 Nm

Tightening Torque Value For NPT Reducer

Sr. No.	Thread Size NPT	Tightening Torque Value
1	3/8" NPT	90 Nm
2	1/2" NPT	90 Nm
3	3/4" NPT	90 Nm
4	1" NPT	113 Nm
5	1.1/4" NPT	113 Nm
6	1.1/2" NPT	113 Nm
7	2" NPT	181 Nm
8	2.1/2" NPT	181 Nm
9	3" NPT	181 Nm
10	4" NPT	181 Nm

Adapter Codification (example: HAD1M1NN)

HARDO CODE	MALE METRIC THREAD CODE	MALE NPT THREAD CODE	FEMALE METRIC THREAD CODE	FEMALE NPT THREAD CODE	MATERIAL
HAD	0M=M16	0N=3/8"	0M=M16	0N=3/8"	N = NICKEL-PLATED BRASS
	1M=M20	1N=1/2"	1M=M20	1N=1/2"	S = SS. 316L
	2M=M25	2N=3/4"	2M=M25	2N=3/4"	Z = SS. 304L
	3M=M32	3N=1"	3M=M32	3N=1"	B = BRASS
	4M=M40	4N=1.1/4"	4M=M40	4N=1.1/4"	E = ELEKTROLESS NICKEL PLATED
	5M=M50	5N=1.1/2"	5M=M50	5N=1.1/2"	
	6M=M63	6N=2"	6M=M63	6N=2"	
	7M=M75	6N=2.1/2"	7M=M75	6N=2.1/2"	
	8M=M90	8N=3"	8M=M90	8N=3"	
	9M=M100	9N=4"	9M=M100	9N=4"	

Reducer Codification (example: HRD1M1NS)

HARDO CODE	MALE METRIC THREAD CODE	MALE NPT THREAD CODE	FEMALE METRIC THREAD CODE	FEMALE NPT THREAD CODE	MATERIAL
HRD	SM=M12	0N=3/8"	SM=M12	0N=3/8"	N = NICKEL-PLATED BRASS
	0M=M16	1N=1/2"	0M=M16	1N=1/2"	S = SS. 316L
	1M=M20	2N=3/4"	1M=M20	2N=3/4"	Z = SS. 304L
	2M=M25	3N=1"	2M=M25	3N=1"	B = BRASS
	3M=M32	4N=1.1/4"	3M=M32	4N=1.1/4"	E = ELEKTROLESS NICKEL PLATED
	4M=M40	5N=1.1/2"	4M=M40	5N=1.1/2"	
	5M=M50	6N=2"	5M=M50	6N=2"	
	6M=M63	6N=2.1/2"	6M=M63	6N=2.1/2"	
	7M=M75	8N=3"	7M=M75	8N=3"	
	8M=M90	9N=4"	8M=M90	9N=4"	
	9M=M100		9M=M100		

Special Conditions For Safe Use / Schedule of Limitations

- Stopping plugs must not be used with a thread adaptor or reducer in flameproof applications.
- O ring must be trapped between the enclosure face and the head of the mushroom head metric threaded stopping plugs and hexagonal face of the metric threaded reducers and adaptors to ensure ingress protection level of IP66/ IP68 (1.5 meter below the surface of water for 2 hours).
- The service temperature of the stopping plugs, reducers and adaptors is limited to -55°C to + 160°C.
- The stopping plugs, reducers and adaptors should be tightened to the torque declared in the installation instructions.
- When the stopping plugs, reducers and adaptors are used for increased safety or dust protection in a plain hole, the hole in the enclosure must not be greater than 0.5mm above the major diameter of the male thread and the stopping plugs, reducer and adaptor must be secured with a locknut. The female threads of the reducer and adaptor are to be sealed, in accordance with IEC 60079-14, to maintain the ingress protection rating of the associated enclosure.
- When the stopping plugs, reducers and adaptors are fitted in threaded holes, the sealing face of the enclosure shall be smooth, the threaded hole shall be perpendicular to the wall of the enclosure, The female threads of the reducer and adaptor are to be sealed, in accordance with IEC 60079-14, to maintain the ingress protection rating of the associated enclosure.

Special Notes

- The interfaces between these devices and the associated enclosure cannot be defined. Therefore it is the user's responsibility to ensure that the appropriate ingress protection level is maintained at these interfaces.
- Ex e equipment should not be used with ex d equipments.
- Two adaptors installed in series is not permitted under certification.
- Only one adaptor or reducer is to be used with any single cable entry on the associated equipment.

Disposal and Recycling




The respective national regulations for waste disposal shall be observed before disposing this product. For recycling of parts, type of material used shall be identified and respective national regulation must be followed.

Guarantee

- HARDO make cable glands are guaranteed for period of 12 months from the date of installation or 18 months from the date of invoice, whichever is earlier.
- Deviation from the basic design, specified procedure and safety instruction can result in component damage or injury to personnel and this will void all guarantee and hazardous area certification(s).

Contact

HARDO
Spacerowa 5
32-083 Balice
Poland

 www.hardo.tech
 +48 695 244 220
 info@hardo.tech

