

TORQUE OVERVIEW

GISMA
STECKVERBINDER
GMBH



DREHMOMENT-ÜBERSICHT
ELEKTRISCHE STECKVERBINDER FÜR
MEERES- UND MARINETECHNIK
BAUREIHE 10, 16, 22, 34, 35, 40, 51

TORQUE OVERVIEW
HIGH PERFORMANCE UNDERWATER
ELECTRICAL CONNECTORS
SERIES 10, 16, 22, 34, 35, 40, 51



Leinestraße 25
D-24539 Neumünster
Tel. +49 - 4321 - 98 35 - 30
Fax +49 - 4321 - 98 35 - 55
www.gisma-connectors.de
E-Mail: info@gisma-connectors.de

Content

1. General	3
2. General screw torque for metric screws	4
3. Mounting torque series 10 plug locking sleeve.....	5
3.1. Mounting torque series 10 fastening / jam nut	5
3.2. Mounting torques series 10 locking sleeve for GISMA endbells.....	6
3.3. Mounting torque series 10 & 22 press nut (calculated)	7
4. Mounting torque series 16	8
4.1. Mounting torque series 16 locking sleeve	8
4.2. Mounting torque series 16 oil hose adapter (to plug).....	8
4.3. Mounting torque series 16 hose fitting (to oil hose adapter)	8
4.4. Mounting torque series 16 moulding endbell.....	9
5. Mounting torque series 22 Pressure Hull Penetrator (PHP)	10
5.1. Mounting torques series 22 Jam Nut Receptacle	10
5.2. Mounting torques series 22 locking sleeve	11
5.3. Mounting torques series 22 locking sleeve for GISMA endbells.....	12
6. Mounting torque series 34	13
7. Mounting torque series 35	13
8. Mounting torque series 40 locking sleeve	13
9. Mounting torque series 51 locking sleeve	14
10. Mounting torque series 51 Pressure hull penetrator	14
11. Mounting torque for tube crimp terminals and crimp terminals	DIN VDE 46235
12. Tools available by GISMA	15
	16

GISMA Steckverbinder GmbH
Leinestraße 25
D-24539 Neumünster

Tel.: +49 (0)4321-9835-30
www.gisma-connectors.de



GISMA ELECTRICAL & FIBRE OPTIC CONNECTORS -

Torque overview for series 10 / 16 / 22 / 34 / 35 / 40 / 51

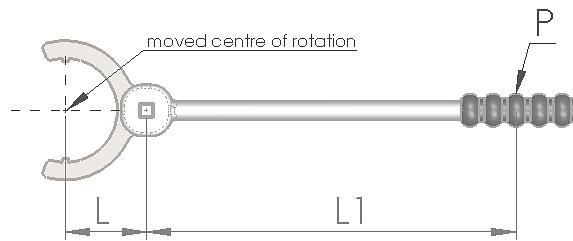
1. General

This document includes an overview of the torques for the locking nuts, pressure hull penetrator and jam nut receptacle fastening nuts and for the screws for the flange receptacles.

As hexagon wrench adapter (mainly series 10 and 35) we recommend a GISMA Torque-wrench no. 22.12.28 or 10.96.000

In combination with a hexagon wrench adapter with an offset (L) different to 32mm, the following calculation for the torque on the torque wrench has to be carried out.

In this case, **L** = (given offset) -32.



$$M_w = \frac{M \times L_1}{L + L_1}$$

P =	centre of handle
L1 =	centre of handle to centre of rotation (CR)
L =	centre of rotation to moved center of rotation (MCR)
M =	target torque
Mw =	wrench torque

For locking sleeves with grooves for hook wrench adapter (mainly series 22 and 40), we recommend a GISMA Torque-wrench no. 22.12.27.

The given torque values according table 5.3 are calculated for the GISMA hook wrench adapter and two kind of adjustable hook wrench adapter according the part-No in the table.

The given torque values are based on experience with new manufactured connectors. Based on the material combination, the greasing and the cleanness the torque values may vary.

Attention:

A final locking is reached, after a metal contact of the connector pairs.

For loosening the nut or locking sleeve, we recommend using a standard reversible ratchet, to prevent the torque-wrench from damage.



The hook wrench adapters have to be used in a straight line with the hook wrench, to reach the requested torques. (see picture below)



2. General screw torque for metric screws

The following table shows non-binding standard values for different friction-coefficients valid for screws and nut according DIN 912, 931, 933 and 934 / ISO 4762, 4014, 4017, 4032 made of stainless steel (e.g. 1.4404). The values are valid for the property class -70 with a nominal dimension 8 x d at 20°C and an offset yield stress of Rp 0,2 = 90 %.

The torque values in the table below are **rough and non-binding standard values** – see VDI 2230.

Fastening torque MA [Nm] for A4-70

Friction-coefficient [μ]	-70 = Rp 0,2 min. 450 N/mm ²							
	M4	M5	M6	M8	M10	M12	M16	M20
0,10	1,7	3,4	5,9	14,5	30	50	121	244
0,12	2,0	3,8	6,7	16,3	33	56	136	274
0,14	2,2	4,2	7,4	17,8	36	62	150	303
0,16	2,3	4,6	7,9	19,3	39	66	162	328
0,18	2,5	4,9	8,4	20,4	41	70	173	351
0,20	2,6	5,1	8,8	21,5	44	74	183	370
0,30	3,0	6,1	10,4	25,5	51	88	218	439
0,40	3,3	6,6	11,3	27,6	56	96	237	479



3. Mounting torque series 10 plug locking sleeve

Mounting torques are valid for all materials.

Size	Mounting torque M for plug locking sleeves ²⁾	Wrench torque M_w ³⁾	Wrench size	mounting tool ¹⁾
1	23 ± 5 Nm	21 ± 5 Nm	26 mm	22.12.28 + 10.12.02
2	25 ± 5 Nm	22 ± 5 Nm	32 mm	22.12.28 + 10.12.04
3	27 ± 5 Nm	24 ± 5 Nm	34 mm	22.12.28 + 10.12.05
4	30 ± 5 Nm	26 ± 5 Nm	41 mm	22.12.28 + 10.12.07
5	33 ± 5 Nm	27 ± 5 Nm	55 mm	22.12.28 + 10.12.10
6	36 ± 5 Nm	29 ± 5 Nm	65 mm	22.12.28 + 10.12.14
7	225 ± 5 Nm	56 ± 5 Nm	100 mm	22.12.28 + 10.12.18
71	225 ± 5 Nm	56 ± 5 Nm	110 mm	22.12.28 + 10.12.19

¹⁾ Please also refer to GISMA document MB 10.12.XX

²⁾ For specific components please check the torques in the relevant dimensional drawing.

³⁾ adjusted torque value at the mounting tool

3.1. Mounting torque series 10 fastening / jam nut

Mounting torques are valid for all materials.

Size	Mounting torque M for fastening / jam nut	Wrench torque M_w ²⁾	Wrench size	mounting tool ¹⁾
1	45 ± 5 Nm	40 ± 5 Nm	27 mm	22.12.28 + 10.12.03
2	45 ± 5 Nm	40 ± 5 Nm	32 mm	22.12.28 + 10.12.04
3	55 ± 5 Nm	48 ± 5 Nm	36 mm	22.12.28 + 10.12.06
4	55 ± 5 Nm	47 ± 5 Nm	41 mm	22.12.28 + 10.12.07
5	65 ± 5 Nm	53 ± 5 Nm	55 mm	22.12.28 + 10.12.10
6	75 ± 5 Nm	60 ± 5 Nm	65 mm	22.12.28 + 10.12.14

¹⁾ Please also refer to GISMA document MB 10.12.XX

²⁾ adjusted torque value at the mounting tool



3.2. Mounting torques series 10 locking sleeve for GISMA endbells

All torques are values for orientation

BR 10		0° Moulding Endbell		90° Moulding Endbell		120° Moulding Endbell	
Size	Locking thread	Mounting torque [Nm]	Hook wrench (adjustable)	Mounting torque [Nm]	Hook wrench (adjustable)	Mounting torque [Nm]	Hook wrench (adjustable)
		„Z“		„Y“		„X“	„W“
1	M19x0,5	M: 8 Nm ± 2 M _w : 00 Nm ± 2	22.12.20	14 Nm ± 2	22.12.25	BR 10/1 not in 120° angled	
2	M22x0,5	10 Nm ± 2	22.12.20	15 Nm ± 2	22.12.25	BR 10/2 not in 120° angled	
3	M27x0,5	11 Nm ± 2	22.12.20	16 Nm ± 2	22.12.25	16 Nm ± 2	22.12.25
	M22x1					13 Nm ± 2	22.12.20
4	M31x0,75	17 Nm ± 2	22.12.20	23 Nm ± 2	22.12.25	BR 10/4 not in 120° angled	
5	M45x0,75	25 Nm ± 2	22.12.20	28 Nm ± 2	22.12.26	BR 10/5 not in 120° angled	
6	M50x0,75	tbd	tbd	/	/	BR 10/6 not in 120° angled	
7	M85x1,5	tbd	tbd	/	/	BR 10/7 not in 120° angled	



3.3. Mounting torque series 10 & 22 press nut (calculated)

Mounting torques are valid for all materials.

Size series 10	Size series 22	Mounting torque for Press nut	Torque meter	Hook wrench
1	0	4 + 1 Nm	22.12.39	10.90.004
2	/	5 + 1 Nm	22.12.39	
3	1 & 2	6 + 1 Nm	22.12.39	10.90.005
4	3	7 + 1 Nm	22.12.39	
5	4	11 + 2 Nm	22.12.39	10.90.006
6	5 & 7	14 + 2 Nm	22.12.39	

The structure, tolerance in diameter, material and screen termination of the different cables can affect the mounting torque of the press nut. We suggest that every cable shall be tested.

Attention:

The mounting torque has to be adjusted for coaxial cable assemblies!

For cables with massive variation in diameter the pinch cones may be adjusted!

Tighten elastic rubber cables with less torque than comparable more steady cables!



4. Mounting torque series 16

4.1. Mounting torque series 16 locking sleeve

Mounting torques are valid for all materials.

Size	Mounting torque M for plug locking sleeves	Wrench torque M _w ²⁾	Wrench size	Mounting tool ¹⁾
3	42 + 5 Nm	36 + 5 Nm	45 mm	22.12.28 + 10.12.21
4	45 + 5 Nm	38 + 5 Nm	50 mm	22.12.28 + 10.12.22
5	49 + 5 Nm	39 + 5 Nm	65 mm	22.12.28 + 10.12.14
6	52 + 5 Nm	41 + 5 Nm	70 mm	22.12.28 + 10.12.25

4.2. Mounting torque series 16 oil hose adapter (to plug)

Mounting torques are valid for all materials.

Size	Locking thread	Mounting torque M ²⁾	Mounting tool ¹⁾
3	M 34 x 1	20 + 5 Nm	22.12.28 + 10.12.05
4	M 38 x 1	25 + 5 Nm	22.12.28 + 10.12.05
5	M 48 x 1	30 + 5 Nm	22.12.28 + 10.12.08
6	M 56 x 1	35 + 5 Nm	22.12.28 + 10.12.26

4.3. Mounting torque series 16 hose fitting (to oil hose adapter)

Mounting torques are valid for all materials.

Size	Locking thread	Hose size	Mounting torque M ²⁾	Mounting tool ¹⁾
3	M 25 x 1,5	½ "	40 + 5 Nm	22.12.28 + 10.12.20
4	M 32 x 1,5	¾"	45 + 5 Nm	22.12.28 + 10.12.06
5	M 42 x 2	1"	60 + 5 Nm	22.12.28 + 10.12.08
6	M 62 x 3	1 ½"	80 + 5 Nm	22.12.28 + 10.12.23

¹⁾ Please also refer to GISMA document MB 10.12.XX

²⁾ adjusted torque value at the mounting tool



4.4. Mounting torque series 16 moulding endbell

Mounting torques are valid for all materials.

Size	Locking thread	Mounting torque M ²⁾	Mounting tool ¹⁾
3	M 25 x 1,5	20 + 5 Nm	22.12.27 + 22.12.20
4	M 32 x 1,5	25 + 5 Nm	22.12.27 + 22.12.20 22.12.27 + 22.12.21
5	M 42 x 2	30 + 5 Nm	22.12.27 + 22.12.25
6	M 62 x 3	35 + 5 Nm	22.12.27 + 22.12.26

¹⁾ Please also refer to GISMA document MB 10.12.XX

²⁾ adjusted torque value at the mounting tool



5. Mounting torque series 22 Pressure Hull Penetrator (PHP)

Material combination pressure hull penetrator stainless steel to locking nut bronze

Size	Locking thread of PHP	Torque for locking nut / castellated nut of PHP	wrench size	mounting tool for locking nut	mounting tool for castellated nut
1	M39x1	60 + 5 Nm	46 mm	22.12.28 + 22.94.001	22.12.27 + 22.94.020
2	M39x1	60 + 5 Nm	46 mm	22.12.28 + 22.94.001	22.12.27 + 22.94.020
3	M39x1	60 + 5 Nm	46 mm	22.12.28 + 22.94.001	22.12.27 + 22.94.020
4	M54x1	75 + 5 Nm	60 mm	22.12.28 + 22.94.002	22.12.27 + 22.94.021
5	M54x1	75 + 5 Nm	60 mm	22.12.28 + 22.94.002	22.12.27 + 22.94.021
	M70x1,5	90 + 5 Nm	80 mm	22.12.28 + 22.94.003	22.12.27 + 22.94.022
	M115x1,5	115 + 5 Nm		22.94.004	
7	M72x1,5	90 + 5 Nm	80 mm	22.12.28 + 22.94.003	22.12.27 + 22.94.022

5.1. Mounting torques series 22 Jam Nut Receptacle

Mounting torques are valid for all materials.

Size	Locking thread of jam nut receptacle	Torque M for locking nut of jam nut receptacle	Wrench torque $M_w^2)$	wrench size	mounting tool ¹⁾
1	M26x1	45 ± 5 Nm	40 ± 5 Nm	32 mm	tbd
2	M32x1	45 ± 5 Nm	39 ± 5 Nm	41 mm	tbd
3	M35x0,75	55 ± 5 Nm	47 ± 5 Nm	41 mm	tbd
4	M47x1	55 ± 5 Nm	45 ± 5 Nm	55 mm	tbd
5	M56x1	65 ± 5 Nm	52 ± 5 Nm	64 mm	tbd
7	M72x1,5	75 ± 5 Nm	57 ± 5 Nm	80 mm	tbd

¹⁾ Please also refer to GISMA document MB 10.12.XX

²⁾ adjusted torque value at the mounting tool



5.2. Mounting torques series 22 locking sleeve

Material combination pressure hull penetrator stainless steel to locking sleeve bronze

Size	Mounting torque M outboard plug	Wrench torque M _w ²⁾ Outboard plug	GISMA hook wrench adapter ¹⁾	Mounting torque inboard plug	Wrench torque M _w ²⁾ inboard plug	GISMA hook wrench adapter ¹⁾
0	25 +3 Nm	21 +3 Nm	22.12.28 + 10.12.03			
1	30 +3 Nm	25 +3 Nm	22.12.20	18 +3 Nm	14 +3 Nm	22.12.20
2	30 +3 Nm	24 +3 Nm	22.12.21	20 +3 Nm	15 +3 Nm	22.12.20
3	35 +5 Nm	28 +5 Nm	22.12.21	25 +5 Nm	20 +5 Nm	22.12.20
4	46 +5 Nm	37 +5 Nm 42 +5 Nm 43 +5 Nm	22.12.21 22.96.005 22.96.011+12	35 +5 Nm	28 +5 Nm 32 +5 Nm 33 +5 Nm	22.12.21 22.96.005 22.96.011+12
5	98 +5 Nm	78 +5 Nm	22.12.21	40 +5 Nm	32 +5 Nm	22.12.21
7	125 +5 Nm	99 +5 Nm 111 +5 Nm	22.12.21 22.96.006	45 +5 Nm	35 +5 Nm 40 +5 Nm	22.12.21 22.96.007

¹⁾ Special endbells may require specific tools. Please check the relevant dimensional drawings.

²⁾ adjusted torque value at the mounting tool

Material combination inboard plug bronze to inboard receptacle bronze

Size	Mounting torque inboard plug	Wrench torque M _w ²⁾ inboard plug	GISMA hook wrench adapter ¹⁾
0	15 +3 Nm	13 +3 Nm	22.12.20
1	18 +3 Nm	14 +3 Nm	22.12.20
2	20 +3 Nm	15 +3 Nm	22.12.20
3	25 +5 Nm	20 +5 Nm	22.12.20
4	35 +5 Nm	28 +5 Nm 32 +5 Nm 33 +5 Nm	22.12.21 22.96.005 22.96.011+12
5	40 +5 Nm	32 +5 Nm	22.12.21
7	45 +5 Nm	35 +5 Nm 40 +5 Nm	22.12.21 22.96.007

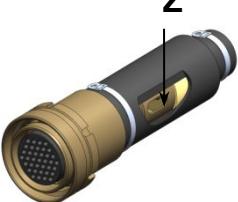
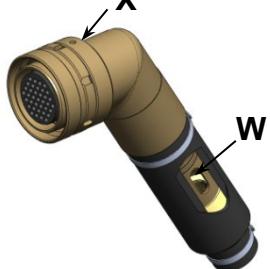
¹⁾ Special endbells may require specific tools. Please check the relevant dimensional drawings.

²⁾ adjusted torque value at the mounting tool



5.3. Mounting torques series 22 locking sleeve for GISMA endbells

All torques are values for orientation

BR 22			 Z	 Y	 X W		
Size	Locking thread	Mounting torque [Nm]	Hook wrench (adjustable)	Mounting torque [Nm]	Hook wrench (adjustable)	Mounting torque [Nm]	Hook wrench (adjustable)
0	M19x0,5	8 Nm ± 2	22.12.20	14 Nm ± 2	22.12.25	14 Nm ± 2	22.12.25
						Endbell is a welding assembly	
1	M27x0,5	12 Nm ± 2	22.12.20	16 Nm ± 2	22.12.25	16 Nm ± 2	22.12.25
	M22x1					13 Nm ± 2	22.12.20
2	M27x0,5	12 Nm ± 2	22.12.20	16 Nm ± 2	22.12.25	16 Nm ± 2	22.12.25
	M22x1					13 Nm ± 2	22.12.20
3	M35x0,75	15 Nm ± 2	22.12.20	23 Nm ± 2	22.12.25	23 Nm ± 2	22.12.25
	M35x0,75					15 Nm ± 2	22.12.20
4	M45x0,75	25 Nm ± 2	22.12.20	28 Nm ± 2	22.12.26	28 Nm ± 2	22.12.26
	M45x0,75					16 Nm ± 2	22.12.20
5	M54x1	30 Nm ± 2	22.12.26	45 Nm ± 2	22.12.26	45 Nm ± 2	22.12.26
	M50x0,75					30 Nm ± 2	22.12.20
6	M64x1	tbd	22.12.26	Not realized		Not realized	
7	M68x1	35 Nm ± 2	22.12.26	55 Nm ± 2	22.12.26	55 Nm ± 2	22.12.26
	M50x0,75					45 Nm ± 2	22.12.25



6. Mounting torque series 34

Mounting torques are valid for all materials.

Size	Mounting torque plug	Wrench torque $M_w^2)$	Wrench size	mounting tool ¹⁾
1	14 ± 1 Nm	12 ± 1 Nm	30 mm	22.12.39 + 10.12.17
2	16 ± 1 Nm	14 ± 1 Nm	34 mm	22.12.39 + 10.12.05

¹⁾ Please also refer to GISMA document MB 10.12.XX

²⁾ adjusted torque value at the mounting tool

7. Mounting torque series 35

Mounting torques are valid for all materials.

Size	Mounting torque plug	Wrench torque $M_w^2)$	Wrench size	mounting tool ¹⁾
2	10 ± 1 Nm	9 ± 1 Nm	19 mm	22.12.39 + 10.12.01
3	12 ± 1 Nm	11 ± 1 Nm	27 mm	22.12.39 + 10.12.03
			30 mm	22.12.39 + 10.12.17
4	14 ± 1 Nm	13 ± 1 Nm	36 mm	22.12.39 + 10.12.06

¹⁾ Please also refer to GISMA document MB 10.12.XX

²⁾ adjusted torque value at the mounting tool

Size	Mounting torque receptacle fastening nut	Wrench torque M_w	Wrench size	mounting tool
2	17 ± 1 Nm	tbd	17 mm	tbd
3	30 ± 2 Nm	tbd	tbd	tbd
4	tbd	tbd	tbd	tbd

8. Mounting torque series 40 locking sleeve

Mounting torques are valid for all materials.

Size	Mounting torque outboard plug	Wrench torque $M_w^2)$ Outboard plug	GISMA hook wrench adapter ¹⁾
0	$15 +3$ Nm	$13 +3$ Nm	22.12.20
1	$20 +3$ Nm	$17 +3$ Nm	22.12.20
2	$25 +3$ Nm	$20 +3$ Nm	22.12.21
3	$30 +5$ Nm	$24 +5$ Nm	22.12.21
4	$45 +5$ Nm	$36 +5$ Nm	22.12.21
		$41 +5$ Nm	22.96.005
		$42 +5$ Nm	22.96.011+12
5	$60 +5$ Nm	$47 +5$ Nm	22.12.21
7	$80 +5$ Nm	$63 +5$ Nm	22.12.21
		$71 +5$ Nm	22.96.006

¹⁾ Special endbells may require specific tools. Please check the relevant dimensional drawings.

²⁾ adjusted torque value at the mounting tool



Issue: 19.06.2025
Rev.-Index: 34
From: 24.02.2015

Torque overview for series 10 / 16 / 22 / 34 / 35 / 40 / 51

Document:
Torque Overview Series
10-16-22-34-35-40-51-
Rev.35.docx

Copyright by:
GISMA GmbH

9. Mounting torque series 51 locking sleeve

Mounting torques are valid for all materials.

Size	Mounting torque Outboard plug	Wrench size
1	18 ± 3 Nm	27 mm

10. Mounting torque series 51 Pressure hull penetrator

Mounting torques are valid for all materials.

Size	Mounting torque Pressure hull penetrator	Wrench size
1	30 ± 2 Nm	24 mm
1	40 ± 2 Nm	32 mm



11. Mounting torque for tube crimp terminals and crimp terminals DIN VDE 46235

Screw and torque	Order-No. of tube crimp terminal
Cheese head screw DIN 7984-M4 Torque 4,5+0,5 Nm	99.9.001.00 * 99.9.002.00 * 99.9.004.00 * 99.9.006.00 * 99.9.010.00 * 99.9.016.00 * 99.9.025.00 * 99.9.025.03 * 99.9.035.00 * 99.9.050.02 * 99.9.070.00 ** 99.9.095.00 * 99.9.025.11 *** 99.9.035.11 *** 99.9.050.11 *** 99.9.070.11 ***
Cheese head screw DIN 1207-M2,5 Torque 0,6+0,1 Nm	99.9.001.04 * 99.9.002.04 * 99.9.004.04 * 99.9.006.04 * 99.9.010.04 *
Cheese head screw DIN 7984-M8 Torque 28+2 Nm	99.9.120.01 *** 99.9.185.01 *** 99.9.240.01 *** 99.9.070.12 *** 99.9.095.12 *** 99.9.120.12 *** 99.9.150.12 *** 99.9.185.12 *** 99.9.240.12 ***

*** = Material



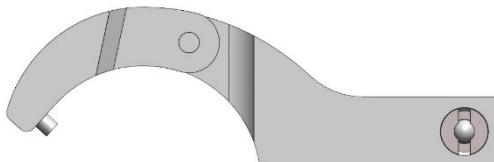
12. Tools available by GISMA

Torque meter: Rahsol TORCOFIX K 4550-10 Order-No.: 22.12.27

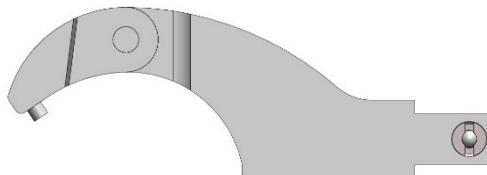
Torque wrench SE 9 x 12, 2-25 Nm
Torque wrench SE 9 x 12, 20-100 Nm
Torque wrench SE 14 x 18, 40-200 NmOrder-No.: 22.12.39
Order-No.: 22.12.28
Order-No.: 10.96.000Adjustable hook wrench Ø20-42mm for 1/2" torquemeter Order-No.: 22.12.20
Adjustable hook wrench Ø45-90mm for 1/2" torquemeter Order-No.: 22.12.2122.12.20 → L = 100mm
22.12.21 → L = 150mmAdjustable hook wrench Ø35-60mm for 1/2" torquemeter Order-No.: 22.12.25
Adjustable hook wrench Ø60-90mm for 1/2" torquemeter Order-No.: 22.12.2622.12.25 → L = 75 mm
22.12.26 → L = 100 mm



Adjustable hook wrench adapter Ø22-35mm for Torque wrench SE 9 x 12

Order-No.: 10.90.005
L = 52 mm
Pin Ø: 3 mm

Adjustable hook wrench adapter Ø35-60mm for Torque wrench SE 9 x 12

Order-No.: 10.90.006
L = 85 mm
Pin Ø: 4 mm

Hook wrench adapter ½" Series 22+40 size 4

Order-No.: 22.96.005

22.96.005 → L = 55mm

Hook wrench adapter ½" Series 22+40 size 1
90° Endbell for small installation environmentOrder-No.: 22.96.024
22.96.025

22.96.024 → L = 29mm

22.96.025 → L = 29mm

Hook wrench adapter ½" Series 22+40 size 4
90° Endbell for small installation environment Order-No.:



22.96.011 → L = 37mm

22.96.012 → L = 37mm

Hook wrench adapter ½" Series 22+40 size 5
90° Endbell for small installation environment



22.96.020 → L = 43mm

22.96.021 → L = 43mm

Hook wrench adapter ½" Series 22 size 7 outboard plug Order-No.:

22.96.006

22.96.006 → L = 70,25mm



Hook wrench adapter ½" Series 22 size 7 inboard plug Order-No.: 22.96.007

22.96.007 → L = 65mm





Standard hook wrench for locking sleeve Series 22 and 40 size 0 to 7.



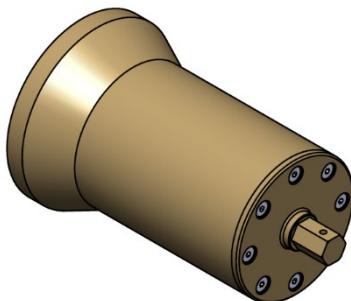
22.12.04 → for ø20- 35mm
22.12.05 → for ø35- 60mm
22.12.06 → for ø60- 90mm
22.12.08 → for ø90-155mm

Standard hook wrench with pin for locking sleeve Series 10 and 22 size 0 to 7



22.12.09 → for ø16-22mm
22.12.01 → for ø22-35mm
22.12.02 → for ø35-60mm
22.12.07 → for ø60-90mm
22.12.03 → for ø90-155mm

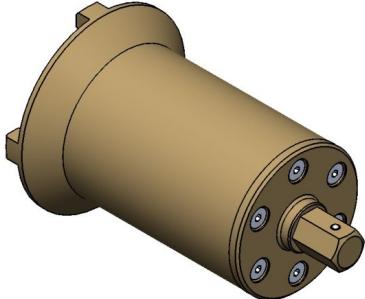
Pipe spanner for mounting the PHP series 22



22.94.001 → for size 1-3
22.94.002 → for size 4-5
22.94.003 → for size 7

Adapter nut (AF 14) is necessary.

Mounting tool for castellated nut for mounting the PHP series 22
(Alternative for pipe spanner)



22.94.020 → for size 1-3
22.94.021 → for size 4-5
22.94.022 → for size 7

Adapter nut (AF 14) is necessary.



Wir beantworten gerne Ihre Fragen und bieten Ihnen eine kompetente Beratung sowie fachspezifische Lösungen für Ihren speziellen Anwendungsfall.

We gladly answer your questions and provide you with expert advice and subject specific solutions.



Leinestraße 25
D-24539 Neumünster
Tel. +49 - 4321 - 98 35 - 30
Fax +49 - 4321 - 98 35 - 55
www.gisma-connectors.de
E-Mail: info@gisma-connectors.de