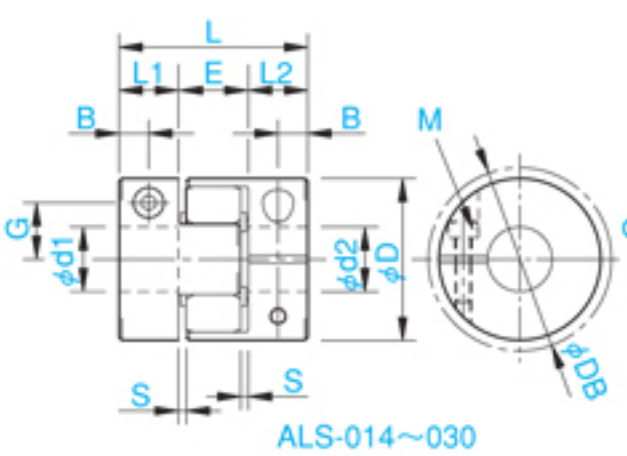
# Clamp type

## Specification

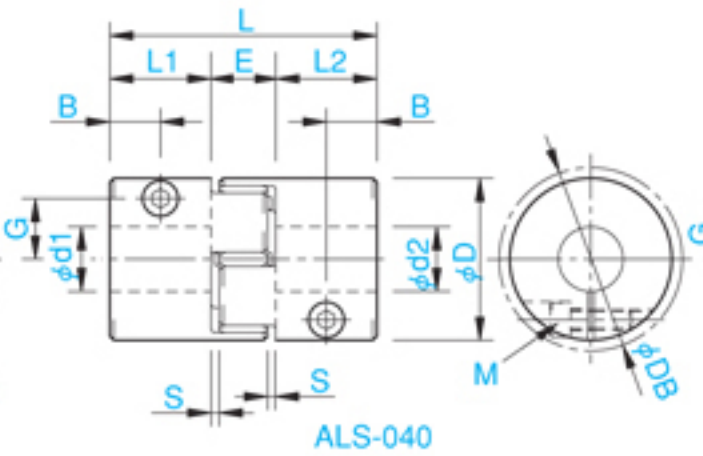
| Model | Torque | | Max. permissible misalignment | | | Max. rotation speed [$min^{-1}$] | Torsional stiffness [N·m/rad] | Radial displacement [N/mm] | Moment of inertia [$kg·m^2$] | Mass [kg] | Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Normal [N·m] | Max. [N·m] | Parallel offset [mm] | Angular misalignment [°] | Axial displacement [mm] | | | | | | |
| ALS-014-Y | 1.2 | 2.4 | 0.10 | 1 | 0～+0.6 | 10000 | 12 | 200 | $1.98\times10^{-7}$ | 0.007 | — |
| ALS-020-Y | 3 | 6 | 0.15 | 1 | 0～+0.8 | 10000 | 24 | 210 | $1.09\times10^{-6}$ | 0.019 | — |
| ALS-030-Y | 7.5 | 15 | 0.15 | 1 | 0～+1.0 | 10000 | 73 | 330 | $6.19\times10^{-6}$ | 0.045 | — |
| ALS-040-Y | 10 | 20 | 0.10 | 1 | 0～+1.2 | 10000 | 760 | 940 | $4.01\times10^{-5}$ | 0.16 | — |
| ALS-055-Y | 35 | 70 | 0.15 | 1 | 0～+1.4 | 7000 | 1400 | 1160 | $1.63\times10^{-4}$ | 0.34 | — |
| ALS-065-Y | 95 | 190 | 0.15 | 1 | 0～+1.5 | 5900 | 2100 | 1200 | $3.69\times10^{-4}$ | 0.54 | — |
| ALS-080-Y | 190 | 380 | 0.15 | 1 | 0～+1.8 | 4800 | 4000 | 1430 | $1.04\times10^{-3}$ | 1.00 | — |
| ALS-014-R | 2 | 4 | 0.1 | 1 | 0～+0.6 | 10000 | 21 | 380 | $1.98\times10^{-7}$ | 0.007 | — |
| ALS-020-R | 5 | 10 | 0.1 | 1 | 0～+0.8 | 10000 | 43 | 400 | $1.09\times10^{-6}$ | 0.019 | — |
| ALS-030-R | 12.5 | 25 | 0.1 | 1 | 0～+1.0 | 10000 | 136 | 650 | $6.19\times10^{-6}$ | 0.045 | — |
| ALS-040-R | 17 | 34 | 0.1 | 1 | 0～+1.2 | 10000 | 1550 | 1700 | $4.01\times10^{-5}$ | 0.16 | — |
| ALS-055-R | 60 | 120 | 0.1 | 1 | 0～+1.4 | 7000 | 2000 | 1350 | $1.63\times10^{-4}$ | 0.34 | — |
| ALS-065-R | 160 | 320 | 0.1 | 1 | 0～+1.5 | 5900 | 3100 | 1400 | $3.69\times10^{-4}$ | 0.54 | — |
| ALS-080-R | 325 | 650 | 0.1 | 1 | 0～+1.8 | 4800 | 6000 | 1710 | $1.04\times10^{-3}$ | 1.00 | — |
| ALS-055-B | 60 | 120 | 0.22 | 1 | −0.2～+1.4 | 7000 | — | — | $1.63\times10^{-4}$ | 0.34 | — |
| ALS-065-B | 160 | 320 | 0.25 | 1 | −0.6～+1.5 | 5900 | — | — | $3.69\times10^{-4}$ | 0.54 | — |
| ALS-080-B | 325 | 650 | 0.28 | 1 | −0.9～+1.8 | 4800 | — | — | $1.04\times10^{-3}$ | 1.00 | — |

* The spring constant values are measured at 20 °C.
* The indicated values in the moment of inertia and mass are measured with the maximum bore diameter.
* Dynamic balance is not considered for the maximum rotation speed.
* ALS-Y-R type's minus axial displacements in the maximum permissible misalignment are not allowed.
* The allowable transmission torque of the clamp type may be restricted by the hole diameter. Refer to "Standard hole diameter and allowable transmission torque" on page 60.

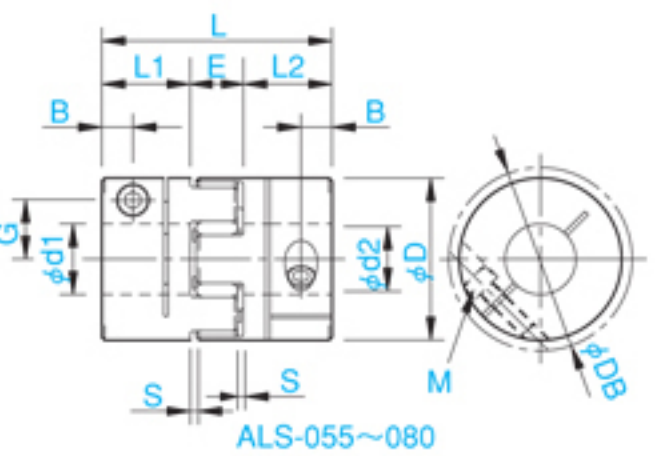
## Dimensions



ALS-014～030



ALS-040



ALS-055～080

| Model | d1 · d2 | | D | DB | L | L1 · L2 | E | S | B | G | M | Tightening torque [N·m] | CAD file No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Min. | Max. | | | | | | | | | | | |
| ALS-014 | 3 | 6 | 14 | 16.1 | 22 | 7 | 8 | 1 | 3.5 | 4.8 | M2 | 0.4 | ALS-BB1 |
| ALS-020 | 4 | 8 | 20 | 20 | 30 | 10 | 10 | 1 | 5 | 6.5 | M2.5 | 1 | ALS-BB2 |
| ALS-030 | 6 | 14 | 30 | 30 | 35 | 11 | 13 | 1.5 | 5.5 | 10.5 | M3 | 1.5 | ALS-BB3 |
| ALS-040 | 8 | 20 | 40 | 43.2 | 66 | 25 | 16 | 2 | 12.5 | 15 | M5 | 7 | ALS-BB4 |
| ALS-055 | 10 | 28 | 55 | 55 | 78 | 30 | 18 | 2 | 10.5 | 20 | M6 | 14 | ALS-BB5 |
| ALS-065 | 14 | 35 | 65 | 69.8 | 90 | 35 | 20 | 2.5 | 11.5 | 24.5 | M8 | 30 | ALS-BB6 |
| ALS-080 | 19 | 45 | 80 | 80 | 114 | 45 | 24 | 3 | 11.5 | 30 | M8 | 30 | ALS-BB7 |

The DB dimension is applicable when the head of the clamp bolt is larger than the hub outer diameter.

## Ordering Information

ALS - 040 - R - 14 B - 15 B

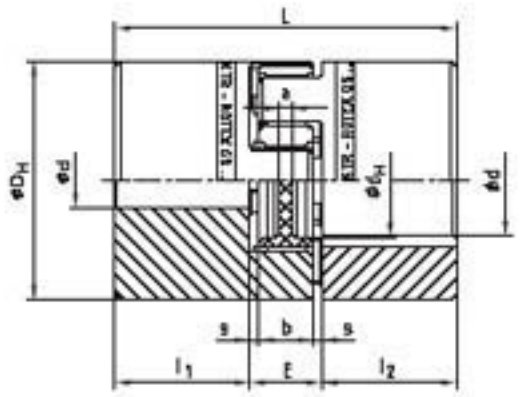
- Size: 040
- Element type: R
  - Y: Yellow (Hardness 90 JIS A Tight fit)
  - R: Red (Hardness 97 JIS A Tight fit)
  - B: Blue (Hardness 97 JIS A Loose fit)
- Bore diameter: d1-d2: 14 B - 15 B
- Bore specification: B
  - B: Clamp type

## Standard bore diameter and permissible transmission torque for the clamp type

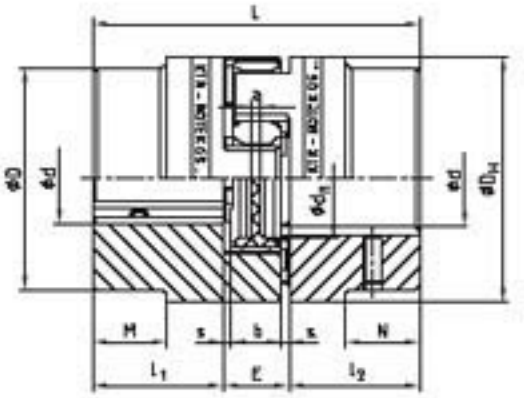
| Model | Standard bore diameter d1-d2 [mm] permissible transmission torque [N·m] | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3 | 4 | 5 | 6 | 6.35 | 7 | 8 | 10 | 11 | 12 | 14 | 15 | 16 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 30 | 35 | 42 |
| ALS-014 | 0.31 | 0.42 | 0.54 | 0.65 | | | | | | | | | | | | | | | | | | | |
| ALS-020 | | 1.2 | 1.6 | 2.1 | 2.2 | 2.6 | 3.0 | | | | | | | | | | | | | | | | |
| ALS-030 | | | | 2.0 | 2.2 | | 3.4 | 4.7 | 5.4 | 6.0 | 7.4 | | | | | | | | | | | | |
| ALS-040 | | | | | | | 8 | 16 | | 23 | 31 | 34 | 34 | | 34 | | | | | | | | |
| ALS-055 | | | | | | | | | | | | 38 | 41 | 48 | 51 | 54 | 61 | 67 | 71 | 80 | | | |
| ALS-065 | | | | | | | | | | | | | | | | 61 | 68 | 75 | 79 | 89 | 96 | 114 | |
| ALS-080 | | | | | | | | | | | | | | | | | | | | 108 | 121 | 151 | 194 |

* The bore diameters with a value are supported as standard bore diameters.
* The permissible transmission torque of the shaft diameter with a value is limited by the holding power at the shaft fixing mechanism. The value indicates the permissible transmission torque [N·m].
* The range of bore diameters that can be supported is from the minimum diameter to the maximum diameter in the table. For bore diameters other than above, contact us for separate arrangement.


- Backlash-free shaft connection under prestress for spindle drives, elevating platforms, machine tool drives, etc.
- Single cardanic coupling in three parts
- Axial plug-in ability - easy blind assembly, without any time-consuming screw connections
- Small dimensions - low flywheel mass
- Maintenance-free, easy to check visually
- Different elastomer hardness of spiders
- Available from stock for all usual shaft dimensions
- Finish bore acc. to ISO fit H7 (apart from clamping hub), keyway, from Ø 6 mm acc. to DIN 6885 sheet 1 - JS9
- Ⓔx Approved according to EC Standard 94/9/EC (only for hub design 1.0 and 2.1/2.6)
- Basic programme see page 107

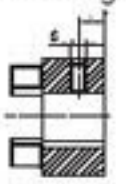



ROTEX® GS 5 - 38

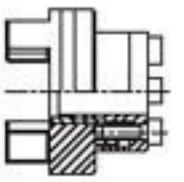



ROTEX® GS 42 - 75

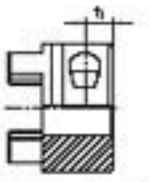
Hub designs: (see page 106)



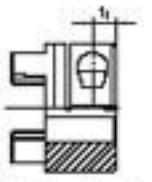
Design
1.0 with keyway and thread
1.1 without keyway, with thread



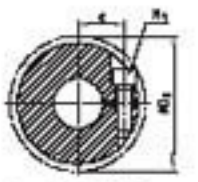
Design 4.2
with
CLAMPEX®
KTR 250



Design up to size 19
as standard
2.0 single slot without keyway (only for category 3)
2.1 single slot, with keyway



Design from size 24
as standard
2.5 double slot, without keyway (only for category 3)
2.6 double slot with keyway



Design 2.0, 2.5
Torque depending on bore diameter

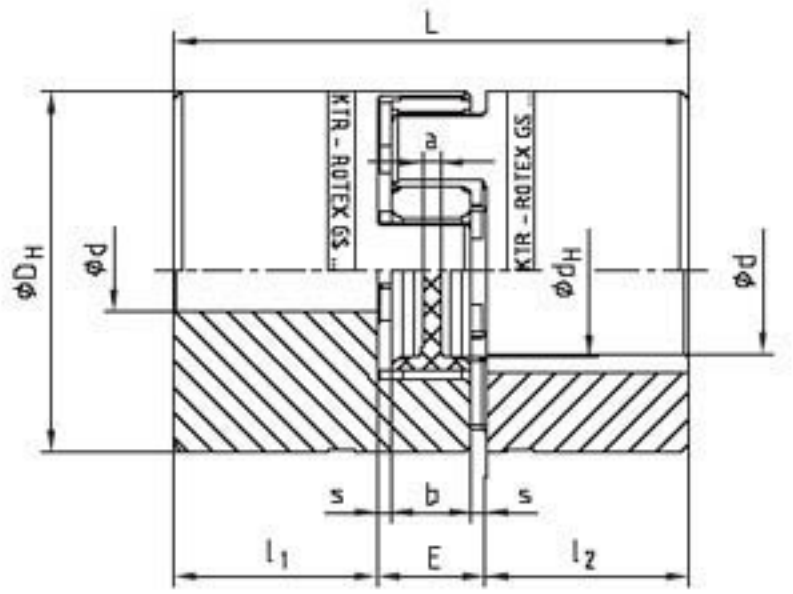
| Size | Un-bored | Finish 1) bores | | Dimensions [mm] | | | | | | | | | | Setscrew | | Clamping screws | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $d_{min.}$ | $d_{max.}$ | D | $D_H$ | $d_H$ | L | $l_1$, $l_2$ | M, N | E | b | s | a | G | t | $M_1$ | $t_1$ | e | $D_K$ | $T_A$ [Nm] |
| **Hub material – Aluminium (Al-H)** | | | | | | | | | | | | | | | | | | | | |
| 19 | ● | 6 | 24 | – | 40 | 18 | 66 | 25 | – | 16 | 12 | 2,0 | 3,0 | M5 | 10 | M6 | 12,0 | 14,5 | 46 | 10,5 |
| 24 | ● | 8 | 28 | – | 55 | 27 | 78 | 30 | – | 18 | 14 | 2,0 | 3,0 | M5 | 10 | M6 | 10,5 | 20,0 | 57 | 10,5 |
| 28 | ● | 10 | 38 | – | 65 | 30 | 90 | 35 | – | 20 | 15 | 2,5 | 4,0 | M8 | 15 | M8 | 11,5 | 25,0 | 73 | 25 |
| 38 | ● | 12 | 45 | – | 80 | 38 | 114 | 45 | – | 24 | 18 | 3,0 | 4,0 | M8 | 15 | M8 | 15,5 | 30,0 | 83 | 25 |
| **Hub material – (Steel St-H)** | | | | | | | | | | | | | | | | | | | | |
| 42 | ● | 14 | 55 | 85 | 95 | 46 | 126 | 50 | 28 | 26 | 20 | 3,0 | 4,0 | M8 | 20 | M10 | 18 | 32,0 | 94 | 69 |
| 48 | ● | 15 | 62 | 95 | 105 | 51 | 140 | 56 | 32 | 28 | 21 | 3,5 | 4,0 | M8 | 20 | M12 | 21 | 36,0 | 105 | 120 |
| 55 | ● | 20 | 74 | 110 | 120 | 60 | 160 | 65 | 37 | 30 | 22 | 4,0 | 4,5 | M10 | 20 | M12 | 26 | 42,5 | 120 | 120 |
| 65 | ● | 22 | 80 | 115 | 135 | 68 | 185 | 75 | 47 | 35 | 26 | 4,5 | 4,5 | M10 | 20 | M12 | 33 | 45,0 | 124 | 120 |
| 75 | ● | 30 | 95 | 135 | 160 | 80 | 210 | 85 | 53 | 40 | 30 | 5,0 | 5,0 | M10 | 25 | M16 | 36 | 51,0 | 147,5 | 295 |

| Size | Bores and the corresponding transmittable torques of the clamping hub design 2.0/2.5 [Nm] | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ø8 | Ø10 | Ø11 | Ø14 | Ø15 | Ø16 | Ø18 | Ø19 | Ø20 | Ø22 | Ø24 | Ø25 | Ø28 | Ø30 | Ø32 | Ø35 | Ø38 | Ø40 | Ø42 | Ø45 | Ø48 | Ø50 | Ø55 | Ø60 | Ø65 | Ø70 | Ø75 | Ø80 |
| 19 | 25 | 27 | 27 | 29 | 30 | 31 | 32 | 32 | 34 | 30 2) | 32 2) | | | | | | | | | | | | | | | | | |
| 24 | | 34 | 35 | 36 | 38 | 38 | 39 | 40 | 41 | 42 | 43 | 45 | 46 | | | | | | | | | | | | | | | |
| 28 | | | | 80 | 81 | 81 | 84 | 85 | 87 | 89 | 91 | 92 | 97 | 99 | 102 | 105 | 109 | | | | | | | | | | | |
| 38 | | | | | 92 | 94 | 97 | 98 | 99 | 102 | 104 | 105 | 109 | 112 | 113 | 118 | 122 | 123 | 126 | 130 | | | | | | | | |
| 42 | | | | | | | | | 232 | 238 | 244 | 246 | 255 | 260 | 266 | 274 | 283 | 288 | 294 | 301 | 309 | | | | | | | |
| 48 | | | | | | | | | | | | 393 | 405 | 413 | 421 | 434 | 445 | 454 | 462 | 473 | 486 | 494 | 514 | | | | | |
| 55 | | | | | | | | | | | | | | | 473 | 486 | 498 | 507 | 514 | 526 | 539 | 547 | 567 | 587 | 608 | | | |
| 65 | | | | | | | | | | | | | | | | 507 | 518 | 526 | 535 | 547 | 559 | 567 | 587 | 608 | 627 | 648 | | |
| 75 | | | | | | | | | | | | | | | | | | | 1102 | 1124 | 1148 | 1163 | 1201 | 1239 | 1278 | 1316 | 1354 | 1393 |

1) depending on hub design 2) 2 x clamping screw M4

# Miniature couplings

- Backlash-free shaft connections for measurement drive swith small torques
- Single cardanic coupling in three parts
- Axial plug-in ability - easy blind assembly, without any time-consuming screw connections
- Small dimensions - low flywheel mass
- Maintenance-free, easy to check visually
- Different elastomer hardness of spiders
- Available from stock for all usual shaft dimensions
- Finish bore acc. to ISO fit H7 (apart from clamping hub), keyway, from Ø 6 mm acc. to DIN 6885 sheet 1 - JS9
- Ⓔx Approved according to EC Standard 94/9/EC (only for hub design 1.0 and 2.1)
- Basic programme see page 107

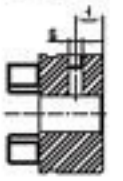



Hub designs (see page 106):

Design 1.0

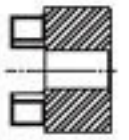
with keyway and setscrew

Design 1.1



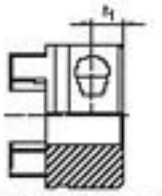
without keyway with setscrew

Design 1.2

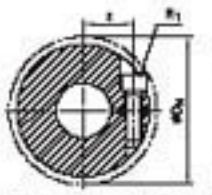


without keyway without setscrew

Setscrew to DIN EN ISO 4029



Design 2.0 Clamping hub without keyway, (only category 3), torques depending on bore diameter



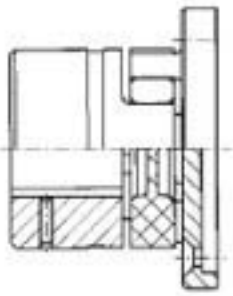
Clamping hub with capscrew DIN EN ISO 4762 (ROTEX® 5 DIN 84)

Design 2.1 Clamping hub with keyway

| Size | Finish bore | | | | Dimensions [mm] | | | | | | | | Setscrew | | Clamping screw | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Hub design | | | | | | | | | | | | | | | | | |
| | $d_{min}$ | 1.0 $d_{max}$ | 1.1, 1.2 $d_{max}$ | 2.0, 2.1 $d_{max}$ | $D_H$ | $d_H$ | L | $l_1; l_2$ | E | b | s | a | G | t | $M_1$ | $t_1$ | e | Ø $D_K$ | $T_A$ [Nm] |
| Hub material – Aluminium (Al - H) | | | | | | | | | | | | | | | | | | | |
| 5 | 2 | - | 5 | 5 | 10 | - | 15 | 5 | 5 | 4 | 0,5 | 4,0 | M2 | 2,5 | M1,2 | 2,5 | 3,5 | 11,4 | - |
| 7 | 3 | 7 | 7 | 7 | 14 | - | 22 | 7 | 8 | 6 | 1,0 | 6,0 | M3 | 3,5 | M2 | 3,5 | 5,0 | 16,5 | 0,37 |
| 9 | 4 | 10 | 11 | 11 | 20 | 7,2 | 30 | 10 | 10 | 8 | 1,0 | 1,5 | M4 | 5,0 | M2,5 | 5,0 | 7,5 | 23,4 | 0,76 |
| 12 | 4 | 12 | 12 | 12 | 25 | 8,5 | 34 | 11 | 12 | 10 | 1,0 | 3,5 | M4 | 5,0 | M3 | 5,0 | 9,0 | 27,5 | 1,34 |
| 14 | 5 | 15 | 16 | 16 | 30 | 10,5 | 35 | 11 | 13 | 10 | 1,5 | 2,0 | M4 | 5,0 | M3 | 5,0 | 11,5 | 32,2 | 1,34 |

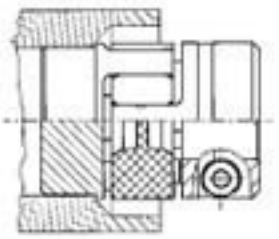
| Size | Bores and the corresponding transmittable torques of the clamping hub design 2.0 [Nm] | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ø 2 | Ø 3 | Ø 4 | Ø 5 | Ø 6 | Ø 7 | Ø 8 | Ø 9 | Ø 10 | Ø 11 | Ø 12 | Ø 14 | Ø 15 | Ø 16 |
| 5 | * | * | * | * | | | | | | | | | | |
| 7 | | 0,8 | 0,9 | 0,95 | 1,00 | 1,10 | | | | | | | | |
| 9 | | | 2,1 | 2,2 | 2,3 | 2,4 | 2,5 | 2,6 | 2,7 | 2,8 | | | | |
| 12 | | | 3,6 | 3,8 | 4,0 | 4,1 | 4,3 | 4,5 | 4,7 | 4,8 | 5,0 | | | |
| 14 | | | | 4,7 | 4,8 | 5,0 | 5,1 | 5,3 | 5,5 | 5,6 | 5,8 | 6,1 | 6,3 | 6,5 |

## Other designs

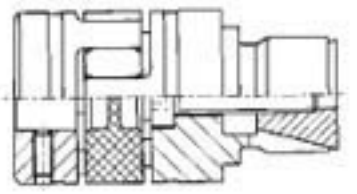


ROTEX® GS-CF

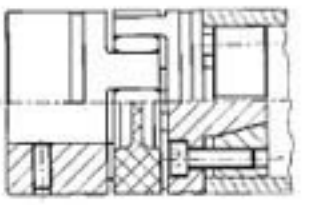
ROTEX® GS for hollow shaft connections



ROTEX® GS with interference fit hub



ROTEX® GS with expansion hub



ROTEX® GS with external clamping ring hub