

**2** Type  
**K** with clamping balls  
**S** with clamping segments



d <sub>1</sub>	d <sub>2</sub> Clam- ping-Ø	d <sub>3</sub>	d <sub>4</sub>	d <sub>5</sub>	d <sub>6</sub>	h <sub>1</sub>	h <sub>2</sub>	k ±0,1	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	t min.	w <sub>1</sub>	w <sub>2</sub>	Number of clamping elements	Clam- ping force in kN
11,7*	14,2	-	M 4	4,3	1,5	-	2,5	3,5	3,9	8,6	6,3	-	0,7	1,3	3	0,5
14,5	18,5	12	M 4	4,3	2	5,5	3,5	4,5	9,8	14,2	5	6	1,2	2,3	3	3,5
18,5	22,5	15	M 5	5,3	2,5	7,5	3	5,5	11,5	16,5	6,2	7	1,2	2,3	3	4
22,5	26,5	20	M 6	6,4	3	6	4	7	14,1	19,6	9	8	1,2	2,3	3	4,5
26,5	30,5	20	M 6	6,4	3	6	4,5	7	14,1	19,8	9	8	1,2	2,3	3	4,5
30,5	38,5	25	M 6	6,4	4	7	4,5	9	14,1	23,2	9	8	2,3	4,6	3	4,5
38,5	46,5	30	M 8	8,4	4	7,5	4,5	11	18	27,2	12	10	2,3	4,6	6	6,5
46,5	54,5	30	M 8	8,4	4	7,5	4,5	11	18	27,1	12	10	2,3	4,6	6	6,5
54,5	70,5	45	M 10	10,5	5	9	5,5	15	23,7	40,6	14	12	4,7	9,2	6	8
70,5	86,5	60	M 12	13	5	10	5,5	17	28,3	46,1	17	15	4,7	9,2	6	10
86,5	102,5	60	M 16	17	5	10	5,5	25	30,3	51,2	21	15	4,7	9,2	6	12,5

\* This size is only available as type K.

## Specification

- Steel
  - hardened
  - blackened
- Clamping balls / -segments
  - hardened
  - blank, ground
- ISO-Fundamental tolerances → Page 1479
- RoHS compliant

## On request

- Centring bore clamps GN 411.3, operable from the opposite side respectively for hydraulic or pneumatic operation
- Centring bore clamps with 2 clamping elements for clamping tubes

## Information

With centring bore clamps GN 411.2 workpieces can be centrally positioned and clamped from the inside of the bore.

They offer the following advantages:

- Precise self centering
- Repetitive accuracy: ± 0,025
- Accuracy of concentricity: ± 0,05
- Solid and stable clamping through either 3 or 6 contact points on the workpiece
- Clamping of workpieces with uneven or irregular surface (such as castings)
- Distortion free clamping
- Reduced height
- Can be fitted in any position
- Large adjustable range
- Draw-down clamping

How to order

**GN 411.2-30,5-K**

**1** d<sub>1</sub>

**2** Type



1.1

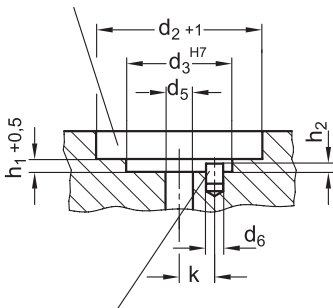
1.2

1.3

1.4

### Dimensions

The recess  $d_2$  is only required for clamping very low parts.

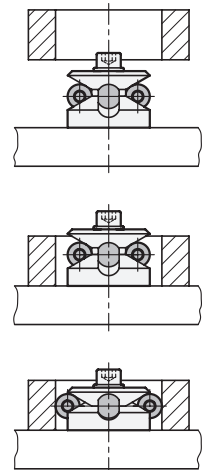


Location dowel to position the clamping segments

### Operating principle

A circular ball cage containing 3 or 6 balls is forced outwards over an accurately guided cone by means of a screw which, through the exerted thrust, will enlarge the outside diameter of the circular ball cage. This in turn will lead to a firm contact between the centring clamp and bore of the workpiece.

Type K (with balls) is used for clamping applications where minute ball marks at the contact points with the workpiece are acceptable. Type S (with clamping segments) is used in such cases where marks at the clamping points on the workpiece would be acceptable.



2.1

2.2

2.3

2.4

