Annex 5

Requirements for mechanical coupling devices or components

Clevis-type drawbar couplings, non-swivel around longitudinal axis.

X.1 General requirements for clevis-type drawbar couplings of Class q

X.1.1 Clevis-type drawbar couplings of Class q shall be designed such that the coupling satisfy the tests prescribed in paragraph [static test] or in paragraph [dynamic test] of annex 6.

X.1.2 Clevis-type drawbar couplings of Class q shall conform to dimensions of Figure [] and Table []. The dimensions given are identical to ISO 6489-5:2011.

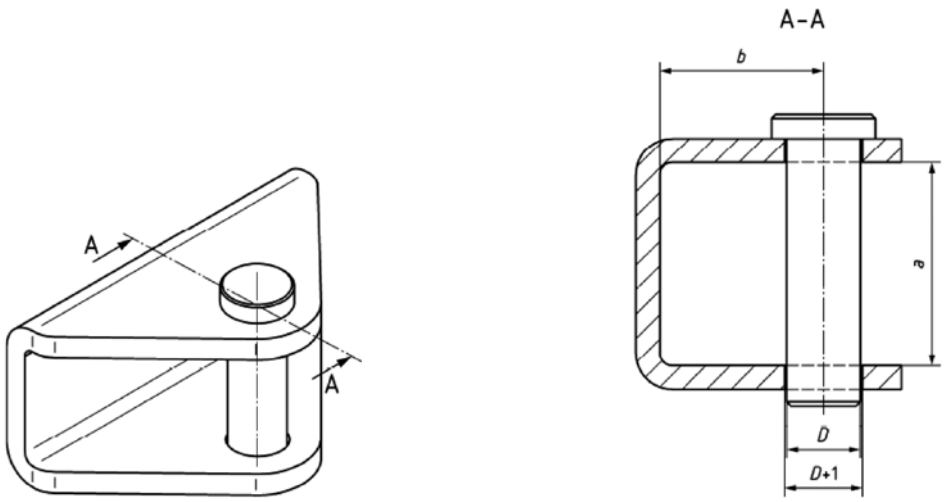

Table … — Shapes, dimensions and allowable loads

Table					
Shapes and dimensions of					
Vertical load S kg	*D value* D kN	*Shape*	*Dimension* mm		
			D ± 0,5	a min.	b min.
≤ 1000	≤ 35		18	50	40
≤ 2000	≤ 90		28	70	55
≤ 3000	≤ 120		43	100	80
~~≤ 3000~~	~~≤ 120~~		~~50~~	~~110~~	~~95~~

X.1.3 Clevis-type drawbar couplings of Class q shall have at least the following angles of articulation, which do not have to be reached simultaneously. The drawbar eye (reference to class r?) shall be free to turn so that the articulation angles formed with the horizontal located in the towing vehicle plane of symmetry and passing through the coupling point have the following minimum values.

a) **R**otation around a vertical axis passing through the coupling point, minimum value of 60° on both sides (see Figure 3).

b) **R**otation around a horizontal axis passing through the coupling point and perpendicular to the machine's longitudinal plane of symmetry, minimum value 20° top and bottom (see Figure 4).

c) **R**otation around a horizontal axis passing through the coupling point and located in the machine's plane of symmetry, minimum value 20° top and bottom (see Figure 5).

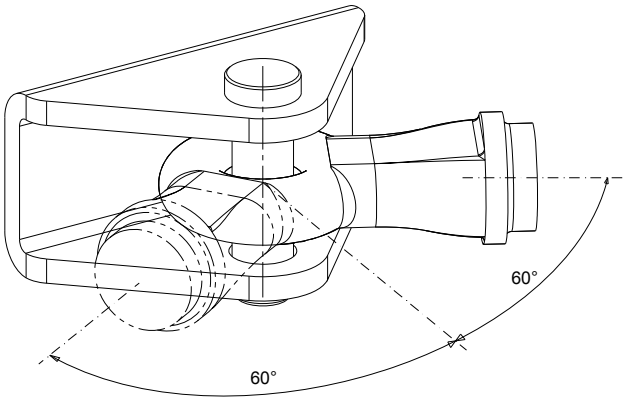

Figure 1 — Angle of yaw

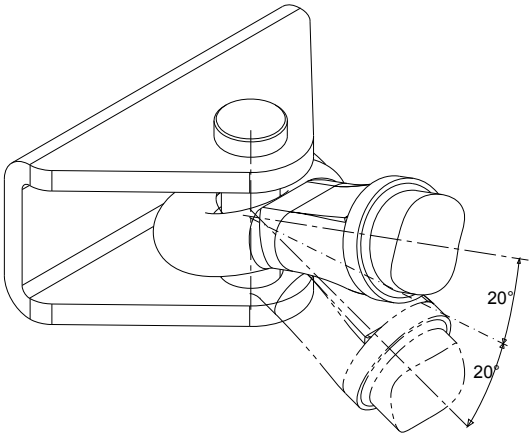

Figure 2 — Angle of pitch

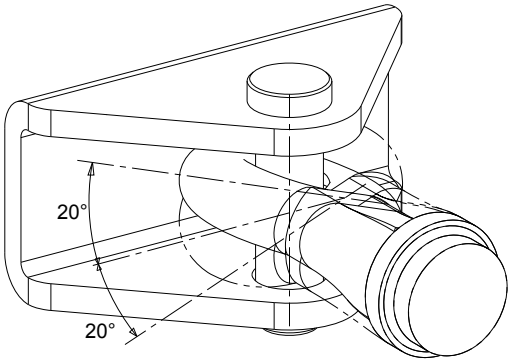

Figure 3 — Angle of roll

X.2 Clevis-type drawbar couplings with standard flange-type bolted fixing of Class q

X.2.1 Clevis-type drawbar couplings with standard flange-type bolted fixing of Class q shall have the following principal dimensions:

Subclass	a [mm]	b [mm]	c [mm]	D [mm]	e [mm]
q1, q2, q3	120	55	15	155	90
q1, q2, q3	140	80	17	180	120
q1, q2, q3	160	100	21	200	140

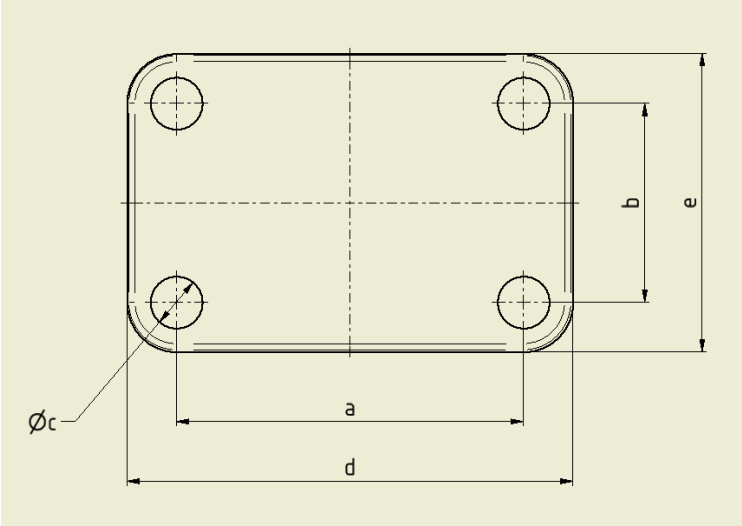

Figure … Dimensions of standard flange

X.2.1 The flange may also be mounted so that it is rotated by an angle of 90° to the visual representation if this installation position was considered when performing the tests specified in annex 6 and is described in the installation and operating instructions.

Drawbar eyes, swivel around longitudinal axis and having a circular cross-section

Y.1 General requirements for drawbar eyes, swivel around longitudinal axis and having a circular cross-section (class r).

Y.1.1 All swivel drawbar eyes shall be designed such that they satisfy the tests prescribed in paragraph [static test] or in paragraph [dynamic test] of annex 6.

Y.1.2 Swivel drawbar eyes of Class r shall conform to dimensions of Figure [] and Table []. The dimensions given are identical to ISO 5692-3:2011.

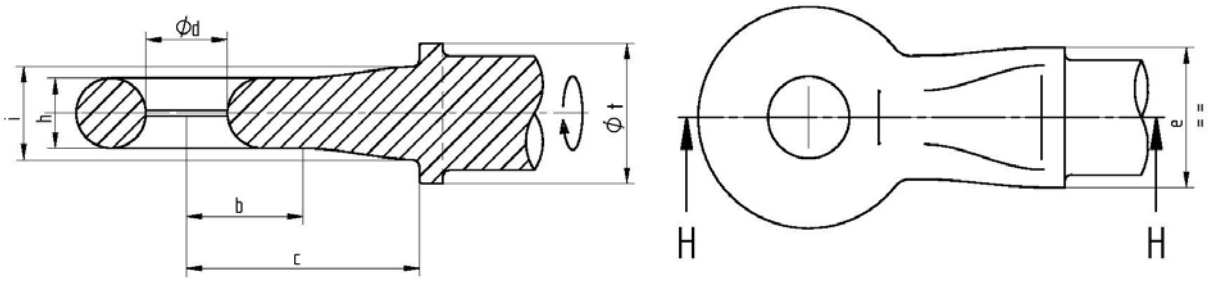

Figure … — Swivel drawbar eye

Table … — Shapes, dimensions and allowable loads

Vertical load S (kg)	*D* **value** (kN)	**ECE R55 Class**	**Swivel drawbar eyes**						
			dimensions [mm]						
			d	**b**	**c**	**e**	**i**	**t**	**h**
			±0,5	min	min	max	max	min	±1
≤1000	≤35	**r 1**	22	40	80	30	30	43	20
≤2000	≤90	**r2**	35	50	100	60	40	62	30
≤3000	≤120	**r3**	50	55	140		55	72	35

Y.2 Drawbar eyes with standard flange-type bolted fixing of Class r

Y.2.1 Swivel drawbar eyes with standard flange-type bolted fixing of Class r shall have the following principal dimensions:

Subclass	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	F [mm]
r1, r2, r3	100	-	110	17	154	154
r1, r2, r3	100	110	110	17	154	154
r1, r2, r3	130	130	130	21	205	195
r1, r2, r3	145	145	145	21	205	195

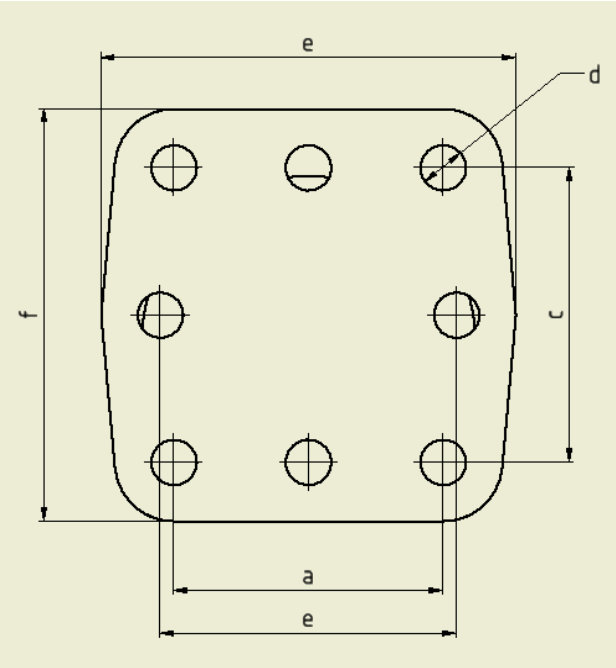

Figure … – Dimensions of standard flange ("e" on the bottom to be "b", include +/- 0,5 for a, b, and c and + 20 /-10 for e and f; applies to all Figures containing flanges)

Y.2.2 In addition swivel drawbar eyes of Subclass r1 (22 mm hole) may have a standard flange-type bolted fixing with the following principal dimensions:

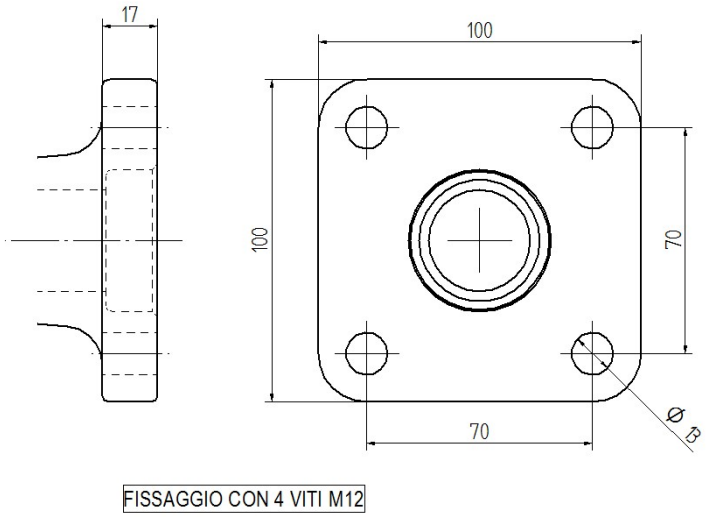

Figure … – Dimensions of additional standard flange for Subclass r1