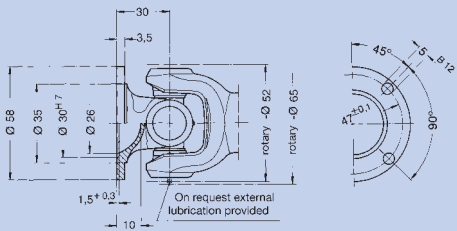


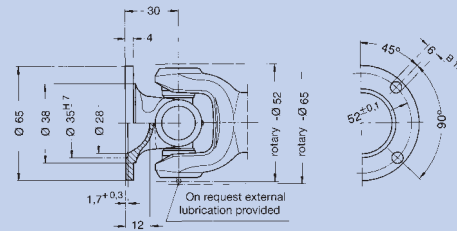
Needle bearing version

At utilisation of the nominal torque a verification of the flange connection is necessary.

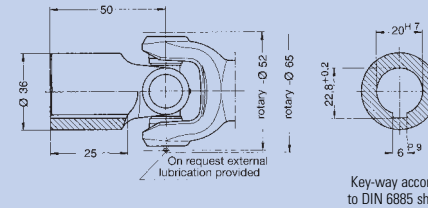
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



On both sides standard flange
end number: 0.105.XX0



On both sides larger flange
end number: 0.105.XX1



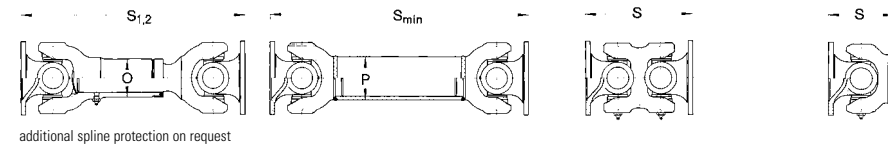
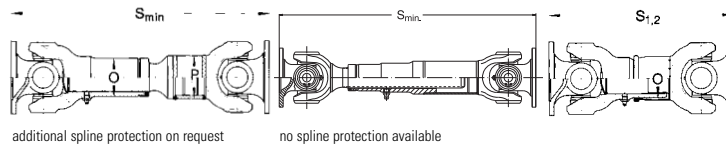
On both sides connecting hub
without key-way end number: 0.105.XX2
with key-way end number: 0.105.XX3

- β = Maximum angle of deflection per joint
- J_m = Moment of inertia
- G = Weight
- S_{min} = Minimum length of tubular types
- S₁ = Compressed lengths of short types
- S₂ = of short types
- X₁ = Extension at S_{min} resp. S₁
- X₂ = Extension at S₂
- P₁ = Tube diameter. Dimensions in bold type for normal applications. Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
- P₂ = Alternative tube
- P₃ = Alternative tube

Universal Cardan Drive-Shafts with extension

Cardan Drive-Shafts without extension

Universal Joints without extension



Please indicate requested length „S“ and max. r.p.m. when ordering!

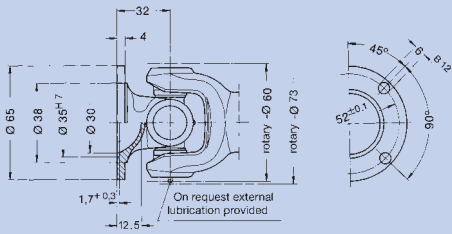
Order number	Tubular Type normal extension				Tubular Type larger extension				Short Type I		
	0.105.100	0.105.101	0.105.102	—	0.105.110	0.105.111	0.105.112	—	0.105.130	0.105.131	0.105.132
Angle of deflection β	30	25	30	—	30	25	30	—	30	25	30
Flange-Ø	58	65	Hub	—	58	65	Hub	—	58	65	Hub
S _{min} resp. S ₁	240	240	280	—	257	257	297	—	165	165	205
S ₂	—	—	—	—	—	—	—	—	175	175	215
X resp. X ₁	25	25	25	—	40	40	40	—	20	20	20
X ₂	—	—	—	—	—	—	—	—	25	25	25
P ₁	28 x 1,5	28 x 1,5	28 x 1,5	—	28 x 1,5	28 x 1,5	28 x 1,5	—	—	—	—
P ₂	40 x 2	40 x 2	40 x 2	—	40 x 2	40 x 2	40 x 2	—	—	—	—
P ₃	—	—	—	—	—	—	—	—	—	—	—
Spline dim. DIN 5480	20x1,5x12	20x1,5x12	20x1,5x12	—	20x1,5x12	20x1,5x12	20x1,5x12	—	20x1,5x12	20x1,5x12	20x1,5x12
Number of flange holes	4	4	—	—	4	4	—	—	4	4	—
J _m (at S _{min} resp. S ₁)	0,000185	0,00022	0,00019	—	0,00019	0,000225	0,000195	—	0,00018	0,00021	0,000185
J _m (at S ₂)	—	—	—	—	—	—	—	—	0,00021	0,00024	0,000215
J _m /100 mm standard tube	0,000017	0,000017	0,000017	—	0,000017	0,000017	0,000017	—	—	—	—
G (at S _{min} resp. S ₁)	1,18	1,25	1,31	—	1,26	1,33	1,39	—	0,93	1,00	1,07
G (at S ₂)	—	—	—	—	—	—	—	—	0,98	1,05	1,12
G/100 mm standard tube	0,1	0,1	0,1	—	0,1	0,1	0,1	—	—	—	—

Short Type II				Tubular Type				Universal Joint Double			Universal Joint Single			
0.105.140	0.105.141	0.105.142	—	0.105.200	0.105.201	0.105.202	—	0.105.300	0.105.301	0.105.302	0.105.400	0.105.401	0.105.402	—
30	25	30	—	30	25	30	—	30	25	30	30	25	30	—
58	65	Hub	—	58	65	Hub	—	58	65	Hub	58	65	Hub	—
195	195	235	—	160	160	200	—	110	110	150	60	60	100	—
215	215	255	—	—	—	—	—	—	—	—	—	—	—	—
25	25	25	—	—	—	—	—	—	—	—	—	—	—	—
25	25	25	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	28 x 1,5	28 x 1,5	28 x 1,5	—	—	—	—	—	—	—	—
—	—	—	—	40 x 2	40 x 2	40 x 2	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20x1,5x12	20x1,5x12	20x1,5x12	—	—	—	—	—	—	—	—	—	—	—	—
4	4	—	—	4	4	—	—	4	4	—	4	4	—	—
0,00022	0,00025	0,000225	—	0,000152	0,000187	0,000157	—	0,00012	0,00015	0,000125	0,000072	0,00011	0,000077	—
0,00024	0,00027	0,000245	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	0,000017	0,000017	0,000017	—	—	—	—	—	—	—	—
0,99	1,06	1,12	—	0,88	0,95	1,01	—	0,69	0,76	0,83	0,40	0,47	0,53	—
1,3	1,10	1,17	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	0,1	0,1	0,1	—	—	—	—	—	—	—	—

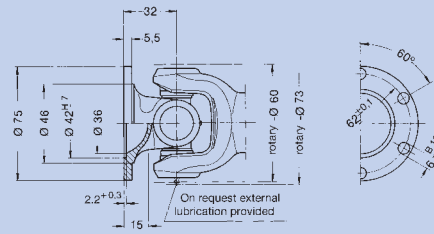
Needle bearing version

At utilisation of the nominal torque a verification of the flange connection is necessary.

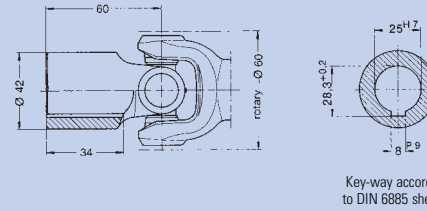
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



On both sides standard flange
end number: 0.106.XX0



On both sides larger flange
end number: 0.106.XX1



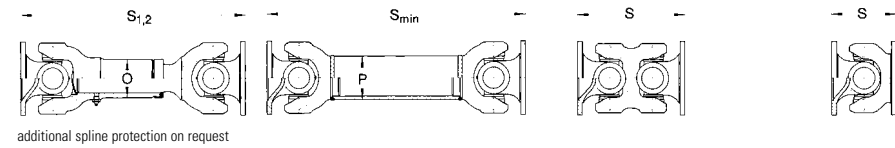
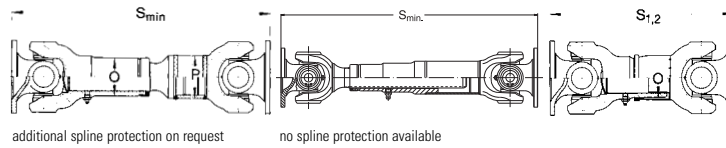
On both sides connecting hub
without key-way end number: 0.106.XX2
with key-way end number: 0.106.XX3

- β = Maximum angle of deflection per joint
- J_m = Moment of inertia
- G = Weight
- S_{min} = Minimum length of tubular types
- S₁ = Compressed lengths of short types
- S₂ = Extension at S_{min} resp. S₁
- X₁ = Extension at S₂
- X₂ = Extension at S₂
- P₁ = Tube diameter. Dimensions in bold type for normal applications. Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
- P₂ = Alternative tube
- P₃ = Alternative tube

Universal Cardan Drive-Shafts with extension

Cardan Drive-Shafts without extension

Universal Joints without extension



Please indicate requested length „S“ and max. r.p.m. when ordering!

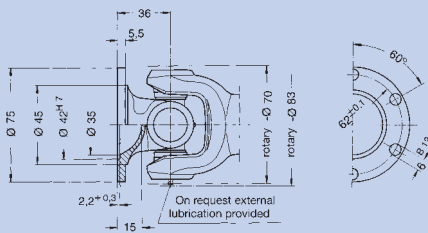
Order number	Tubular Type normal extension				Tubular Type larger extension				Short Type I		
	0.106.100	0.106.101	0.106.102	-	0.106.110	0.106.111	0.106.112	-	0.106.130	0.106.131	0.106.132
Angle of deflection β	30	20	30	-	30	20	30	-	30	20	30
Flange-Ø	65	75	Hub	-	65	75	Hub	-	65	75	Hub
S _{min} resp. S ₁	260	260	315	-	290	290	345	-	180	180	236
S ₂	-	-	-	-	-	-	-	-	200	200	256
X resp. X ₁	30	30	30	-	60	60	60	-	20	20	20
X ₂	-	-	-	-	-	-	-	-	30	30	30
P ₁	32 x 1,5	32 x 1,5	32 x 1,5	-	32 x 1,5	32 x 1,5	32 x 1,5	-	-	-	-
P ₂	50 x 2	50 x 2	50 x 2	-	50 x 2	50 x 2	50 x 2	-	-	-	-
P ₃	70 x 3	70 x 3	70 x 3	-	70 x 3	70 x 3	70 x 3	-	-	-	-
Spline dim. DIN 5480	25x1,5x15	25x1,5x15	25x1,5x15	-	25x1,5x15	25x1,5x15	25x1,5x15	-	25x1,5x15	25x1,5x15	25x1,5x15
Number of flange holes	4	6	-	-	4	6	-	-	4	6	-
J _m (at S _{min} resp. S ₁)	0,000415	0,000587	0,000448	-	0,00044	0,000612	0,00047	-	0,00039	0,00056	0,00042
J _m (at S ₂)	-	-	-	-	-	-	-	-	0,00042	0,00059	0,00045
J _m /100 mm standard tube	0,000026	0,000026	0,000026	-	0,000026	0,000026	0,000026	-	-	-	-
G (at S _{min} resp. S ₁)	1,77	1,95	2,02	-	1,87	2,04	2,11	-	1,39	1,56	1,64
G (at S ₂)	-	-	-	-	-	-	-	-	1,54	1,71	1,78
G/100 mm standard tube	0,11	0,11	0,11	-	0,11	0,11	0,11	-	-	-	-

Short Type II				Tubular Type				Universal Joint Double			Universal Joint Single			
0.106.140	0.106.141	0.106.142	-	0.106.200	0.106.201	0.106.202	-	0.106.300	0.106.301	0.106.302	0.106.400	0.106.401	0.106.402	-
30	20	30	-	30	20	30	-	30	20	30	30	20	30	-
65	75	Hub	-	65	75	Hub	-	65	75	Hub	65	75	Hub	-
220	220	276	-	165	165	220	-	120	120	176	64	64	120	-
235	235	291	-	-	-	-	-	-	-	-	-	-	-	-
30	30	30	-	-	-	-	-	-	-	-	-	-	-	-
30	30	30	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	32 x 1,5	32 x 1,5	32 x 1,5	-	-	-	-	-	-	-	-
-	-	-	-	50 x 2	50 x 2	50 x 2	-	-	-	-	-	-	-	-
-	-	-	-	70 x 3	70 x 3	70 x 3	-	-	-	-	-	-	-	-
25x1,5x15	25x1,5x15	25x1,5x15	-	-	-	-	-	-	-	-	-	-	-	-
4	6	-	-	4	6	-	-	4	6	-	4	6	-	-
0,00043	0,00060	0,00046	-	0,000336	0,00051	0,00036	-	0,00028	0,00045	0,00031	0,00015	0,00032	0,00018	-
0,00045	0,00062	0,00048	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0,000026	0,000026	0,000026	-	-	-	-	-	-	-	-
1,58	1,75	1,83	-	1,16	1,34	1,41	-	0,99	1,16	1,24	0,56	0,73	0,80	-
1,63	1,80	1,87	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0,11	0,11	0,11	-	-	-	-	-	-	-	-

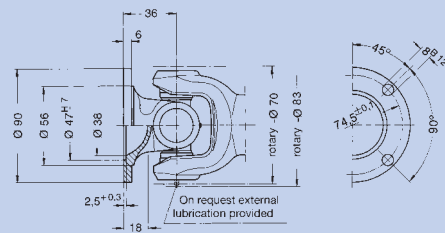
Needle bearing version

At utilisation of the nominal torque a verification of the flange connection is necessary.

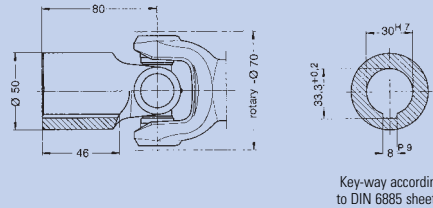
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



On both sides standard flange
end number: 0.107.XX0



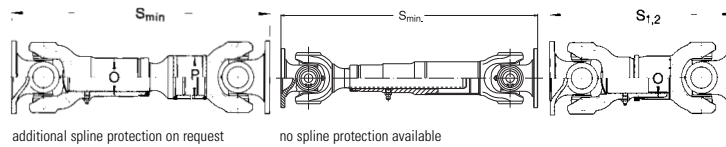
On both sides larger flange
end number: 0.107.XX1



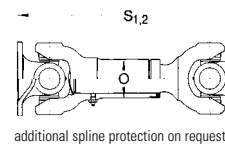
On both sides connecting hub
without key-way end number: 0.107.XX2
with key-way end number: 0.107.XX3

- β = Maximum angle of deflection per joint
- J_m = Moment of inertia
- G = Weight
- S_{min} = Minimum length of tubular types
- S_1 = Compressed lengths of short types
- S_2 = Extension at S_{min} resp. S_1
- X_1 = Extension at S_2
- P_1 = Tube diameter. Dimensions in bold type for normal applications. Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
- P_2 = Alternative tube
- P_3 = Alternative tube

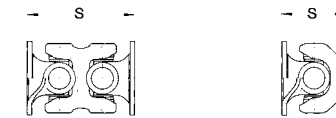
Universal Cardan Drive-Shafts with extension



Cardan Drive-Shafts without extension



Universal Joints without extension



Please indicate requested length „S“ and max. r.p.m. when ordering!

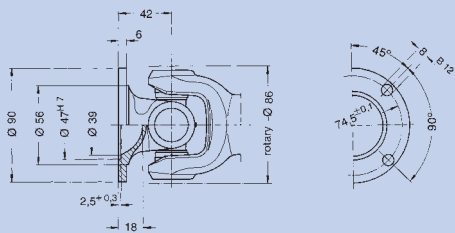
Order number	Tubular Type normal extension				Tubular Type larger extension				Short Type I		
	0.107.100	0.107.101	0.107.102	-	0.107.110	0.107.111	0.107.112	-	0.107.130	0.107.131	0.107.132
Angle of deflection β	30	18	30	-	30	18	30	-	30	18	30
Flange- \emptyset	75	90	Hub	-	75	90	Hub	-	75	90	Hub
S_{min} resp. S_1	300	300	390	-	360	360	450	-	200	200	288
S_2	-	-	-	-	-	-	-	-	225	225	313
X resp. X_1	35	35	35	-	70	70	70	-	25	25	25
X_2	-	-	-	-	-	-	-	-	35	35	35
P_1	40 x 2	40 x 2	40 x 2	-	40 x 2	40 x 2	40 x 2	-	-	-	-
P_2	50 x 2	50 x 2	50 x 2	-	50 x 2	50 x 2	50 x 2	-	-	-	-
P_3	70 x 3	70 x 3	70 x 3	-	70 x 3	70 x 3	70 x 3	-	-	-	-
Spline dim. DIN 5480	28x1,5x17	28x1,5x17	28x1,5x17	-	28x1,5x17	28x1,5x17	28x1,5x17	-	28x1,5x17	28x1,5x17	28x1,5x17
Number of flange holes	6	4	-	-	6	4	-	-	6	4	-
J_m (at S_{min} resp. S_1)	0,00098	0,00127	0,00121	-	0,00104	0,00133	0,00127	-	0,00089	0,00118	0,00112
J_m (at S_2)	-	-	-	-	-	-	-	-	0,00092	0,00120	0,00115
J_m /100 mm standard tube	0,000068	0,000068	0,000068	-	0,000068	0,000068	0,000068	-	-	-	-
G (at S_{min} resp. S_1)	2,60	2,90	3,29	-	3,04	3,35	3,73	-	1,98	2,29	2,67
G (at S_2)	-	-	-	-	-	-	-	-	2,21	2,51	2,90
G/100 mm standard tube	0,19	0,19	0,19	-	0,19	0,19	0,19	-	-	-	-

Short Type II				Tubular Type				Universal Joint Double			Universal Joint Single			
0.107.140	0.107.141	0.107.142	-	0.107.200	0.107.201	0.107.202	-	0.107.300	0.107.301	0.107.302	0.107.400	0.107.401	0.107.402	-
30	18	30	-	30	18	30	-	30	18	30	30	18	30	-
75	90	Hub	-	75	90	Hub	-	75	90	Hub	75	90	Hub	-
250	250	338	-	200	200	290	-	140	140	228	72	72	160	-
270	270	358	-	-	-	-	-	-	-	-	-	-	-	-
35	35	35	-	-	-	-	-	-	-	-	-	-	-	-
35	35	35	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	40 x 2	40 x 2	40 x 2	-	-	-	-	-	-	-	-
-	-	-	-	50 x 2	50 x 2	50 x 2	-	-	-	-	-	-	-	-
-	-	-	-	70 x 3	70 x 3	70 x 3	-	-	-	-	-	-	-	-
28x1,5x17	28x1,5x17	28x1,5x17	-	-	-	-	-	-	-	-	-	-	-	-
6	4	-	-	6	4	-	-	6	4	-	6	4	-	-
0,00093	0,00121	0,00116	-	0,00078	0,00107	0,00101	-	0,00069	0,00098	0,00092	0,00031	0,00060	0,00054	-
0,00096	0,00124	0,00118	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0,000068	0,000068	0,000068	-	-	-	-	-	-	-	-
2,27	2,58	2,96	-	1,89	2,20	2,58	-	1,51	1,82	2,21	0,81	1,12	1,50	-
2,36	2,67	3,05	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0,19	0,19	0,19	-	-	-	-	-	-	-	-

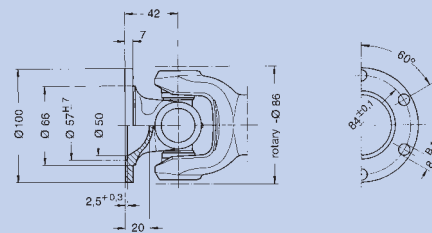
Needle bearing version

At utilisation of the nominal torque a verification of the flange connection is necessary.

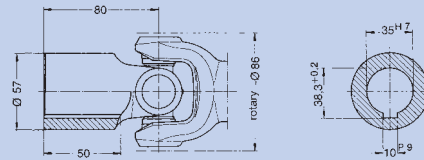
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



On both sides standard flange end number: 0.109.XX0

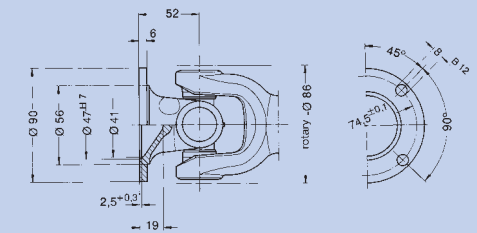


On both sides larger flange end number: 0.109.XX1



Key-way according to DIN 6885 sheet 1

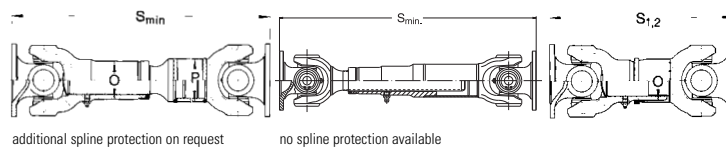
On both sides connecting hub without key-way end number: 0.109.XX2 with key-way end number: 0.109.XX3



On both sides flange for larger angle deflection end number: 0.109.XX5

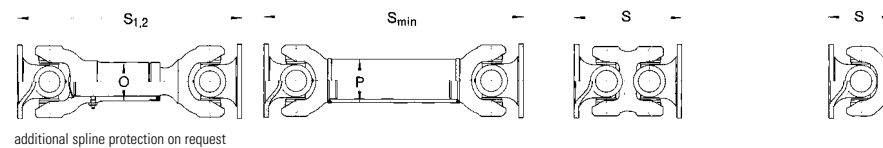
β = Maximum angle of deflection per joint
 J_m = Moment of inertia
 G = Weight
 S_{min} = Minimum length of tubular types
 S₁ = Compressed lengths of short types
 S₂ = of short types
 X₁ = Extension at S_{min} resp. S₁
 X₂ = Extension at S₂
 P₁ = Tube diameter. Dimensions in bold type for normal applications. Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
 P₂ = Alternative tube
 P₃ = Alternative tube

Universal Cardan Drive-Shafts with extension



Cardan Drive-Shafts without extension

Universal Joints without extension



Please indicate requested length „S“ and max. r.p.m. when ordering!

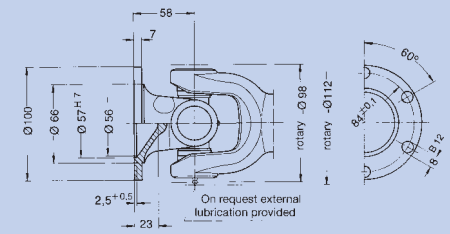
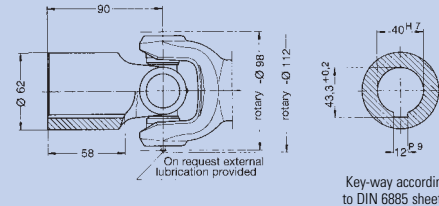
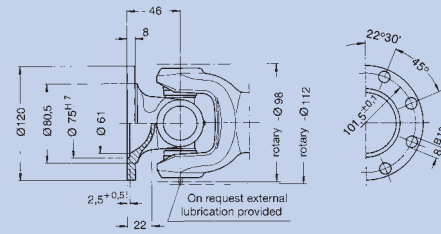
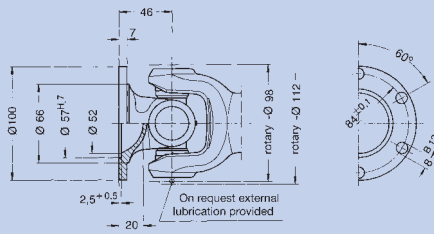
Order number	Tubular Type normal extension				Tubular Type larger extension				Short Type I		
	0.109.100	0.109.101	0.109.102	0.109.105	0.109.110	0.109.111	0.109.112	0.109.115	0.109.130	0.109.131	0.109.132
Angle of deflection β	20	18	20	35	20	18	20	35	20	18	20
Flange-Ø	90	100	Hub	90	90	100	Hub	90	90	100	Hub
S _{min} resp. S ₁	348	348	423	375	393	393	468	425	225	225	301
S ₂	-	-	-	-	-	-	-	-	250	250	326
X resp. X ₁	40	40	40	40	80	80	80	80	25	25	25
X ₂	-	-	-	-	-	-	-	-	40	40	40
P ₁	50 x 2	50 x 2	50 x 2	50 x 2	50 x 2	50 x 2	50 x 2	50 x 2	-	-	-
P ₂	70 x 3	70 x 3	70 x 3	70 x 3	70 x 3	70 x 3	70 x 3	70 x 3	-	-	-
P ₃	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	-	-	-
Spline dim. DIN 5480	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14
Number of flange holes	4	6	-	4	4	6	-	4	4	6	-
J _m (at S _{min} resp. S ₁)	0,00249	0,00286	0,00287	0,00281	0,00259	0,00296	0,00277	0,00291	0,00221	0,00258	0,00239
J _m (at S ₂)	-	-	-	-	-	-	-	-	0,00226	0,00263	0,00244
J _m /100 mm standard tube	0,00014	0,00014	0,00014	0,00014	0,00014	0,00014	0,00014	0,00014	-	-	-
G (at S _{min} resp. S ₁)	4,91	5,12	5,68	5,10	5,41	5,61	6,18	5,71	3,80	4,00	4,57
G (at S ₂)	-	-	-	-	-	-	-	-	4,11	4,31	4,88
G/100 mm standard tube	0,24	0,24	0,24	0,24	0,24	0,24	0,24	0,24	-	-	-

Short Type II				Tubular Type				Universal Joint Double			Universal Joint Single			
0.109.140	0.109.141	0.109.142	0.109.145	0.109.200	0.109.201	0.109.202	0.109.205	0.109.300	0.109.301	0.109.302	0.109.400	0.109.401	0.109.402	0.109.405
20	18	20	35	20	18	20	35	20	18	20	20	18	20	35
90	100	Hub	90	90	100	Hub	90	90	100	Hub	90	100	Hub	90
280	280	356	315	216	216	291	235	152	152	228	84	84	160	104
310	310	386	345	-	-	-	-	-	-	-	-	-	-	-
40	40	40	40	-	-	-	-	-	-	-	-	-	-	-
40	40	40	40	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	50 x 2	50 x 2	50 x 2	50 x 2	-	-	-	-	-	-	-
-	-	-	-	70 x 3	70 x 3	70 x 3	70 x 3	-	-	-	-	-	-	-
-	-	-	-	80 x 4	80 x 4	80 x 4	80 x 4	-	-	-	-	-	-	-
32x2x14	32x2x14	32x2x14	32x2x14	-	-	-	-	-	-	-	-	-	-	-
4	6	-	4	4	6	-	4	4	6	-	4	6	-	4
0,00238	0,00275	0,00256	0,00270	0,00239	0,00276	0,00257	0,00239	0,00166	0,00299	0,00184	0,00075	0,0011	0,00093	0,00107
0,00256	0,00293	0,00274	0,00288	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0,00014	0,00014	0,00014	0,00014	-	-	-	-	-	-	-
4,22	4,43	5,00	4,58	3,73	3,94	4,50	3,88	3,02	3,23	3,79	1,71	1,92	2,49	1,87
4,38	4,59	5,15	4,66	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0,24	0,24	0,24	0,24	-	-	-	-	-	-	-

Roller bearing version

At utilisation of the nominal torque a verification of the flange connection is necessary.

One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



On both sides standard flange end number: 0.110.XX0

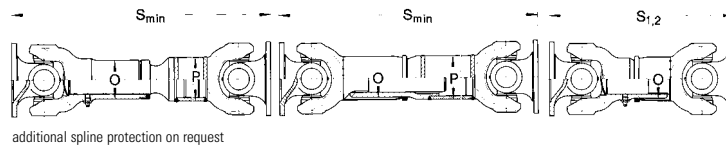
On both sides larger flange end number: 0.110.XX1

On both sides connecting hub without key-way end number: 0.110.XX2 with key-way end number: 0.110.XX3

On both sides flange for larger angle deflection end number: 0.110.XX5

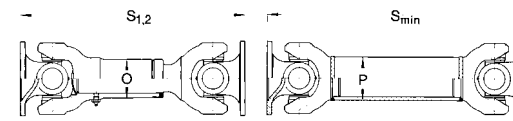
- β = Maximum angle of deflection per joint
- J_m = Moment of inertia
- G = Weight
- S_{min} = Minimum length of tubular types
- S₁ = Compressed lengths of short types
- S₂ = of short types
- X₁ = Extension at S_{min} resp. S₁
- X₂ = Extension at S₂
- P₁ = Tube diameter. Dimensions in bold type for normal applications. Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
- P₂ = Alternative tube
- P₃ = Alternative tube

Universal Cardan Drive-Shafts with extension



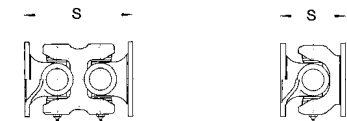
additional spline protection on request

Cardan Drive-Shafts without extension



additional spline protection on request

Universal Joints without extension



Please indicate requested length „S“ and max. r.p.m. when ordering!

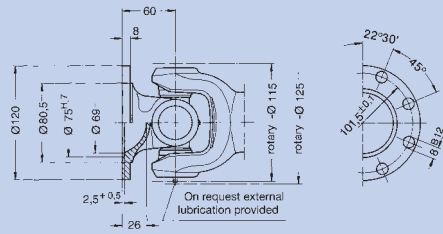
Order number	Tubular Type normal extension				Tubular Type larger extension				Short Type I		
	0.110.100	0.110.101	0.110.102	0.110.105	0.110.110	0.110.111	0.110.112	0.110.115	0.110.130	0.110.131	0.110.132
Angle of deflection β	20	18	20	35	20	18	20	35	20	18	20
Flange-Ø	100	120	Hub	100	100	120	Hub	100	100	120	Hub
S _{min} resp. S ₁	374	374	464	405	464	464	554	490	255	255	343
S ₂	-	-	-	-	-	-	-	-	280	280	368
X resp. X ₁	40	40	40	40	95	95	95	95	30	30	30
X ₂	-	-	-	-	-	-	-	-	40	40	40
P ₁	50 x 3	50 x 3	50 x 3	50 x 3	50 x 3	50 x 3	50 x 3	50 x 3	-	-	-
P ₂	70 x 3	70 x 3	70 x 3	70 x 3	70 x 3	70 x 3	70 x 3	70 x 3	-	-	-
P ₃	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	-	-	-
Spline dim. DIN 5480	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16
Number of flange holes	6	8	-	6	6	8	-	6	6	8	-
J _m (at S _{min} resp. S ₁)	0,00378	0,0051	0,0040	0,0041	0,00406	0,00538	0,00428	0,00438	0,00389	0,00521	0,00410
J _m (at S ₂)	-	-	-	-	-	-	-	-	0,00404	0,00536	0,00426
J _m /100 mm standard tube	0,00019	0,00019	0,00019	0,00019	0,00019	0,00019	0,00019	0,00019	-	-	-
G (at S _{min} resp. S ₁)	6,32	6,77	7,08	6,56	7,48	7,93	8,23	7,62	5,12	5,57	5,87
G (at S ₂)	-	-	-	-	-	-	-	-	5,44	5,89	6,19
G/100 mm standard tube	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,35	-	-	-

Short Type II				Tubular Type				Universal Joint Double			Universal Joint Single			
0.110.140	0.110.141	0.110.142	0.110.145	0.110.200	0.110.201	0.110.202	0.110.205	0.110.300	0.110.301	0.110.302	0.110.400	0.110.401	0.110.402	0.110.405
20	18	20	35	20	18	20	35	18	18	18	20	18	20	35
100	120	Hub	100	100	120	Hub	100	100	120	Hub	100	120	Hub	100
310	310	398	355	250	250	338	270	160	160	248	92	92	180	116
340	340	428	385	-	-	-	-	-	-	-	-	-	-	-
40	40	40	40	-	-	-	-	-	-	-	-	-	-	-
40	40	40	40	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	50 x 3	50 x 3	50 x 3	50 x 3	-	-	-	-	-	-	-
-	-	-	-	70 x 3	70 x 3	70 x 3	70 x 3	-	-	-	-	-	-	-
-	-	-	-	80 x 4	80 x 4	80 x 4	80 x 4	-	-	-	-	-	-	-
35x2x16	35x2x16	35x2x16	35x2x16	-	-	-	-	-	-	-	-	-	-	-
6	8	-	6	6	8	-	6	6	8	-	6	8	-	6
0,00415	0,00547	0,00437	0,00519	0,00352	0,00484	0,00374	0,00456	0,00319	0,00451	0,00340	0,00152	0,00284	0,00173	0,00204
0,00430	0,00562	0,00452	0,00542	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0,00019	0,00019	0,00019	0,00019	-	-	-	-	-	-	-
5,63	6,08	6,38	6,05	4,9	5,35	5,65	5,02	3,98	4,43	4,73	2,25	2,70	3,00	2,39
5,88	6,33	6,63	6,25	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0,35	0,35	0,35	0,35	-	-	-	-	-	-	-

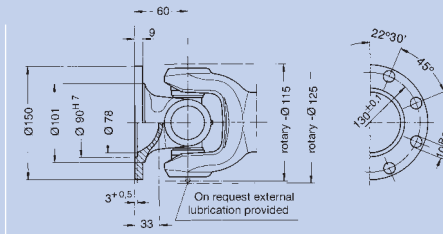
Needle or Roller bearing version

At utilisation of the nominal torque a verification of the flange connection is necessary.

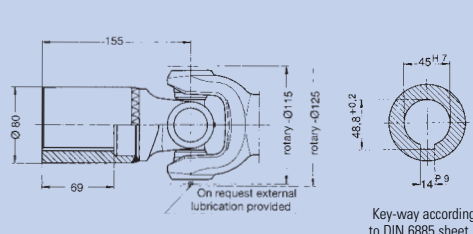
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



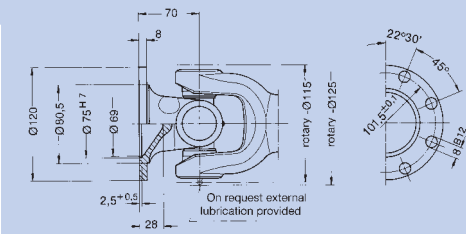
On both sides standard flange end number: 0.112.XX0



On both sides larger flange end number: 0.112.XX1



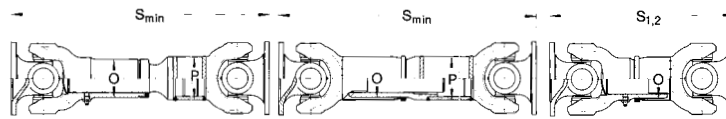
On both sides connecting hub without key-way end number: 0.112.XX2 with key-way end number: 0.112.XX3



On both sides flange for larger angle deflection end number: 0.112.XX5

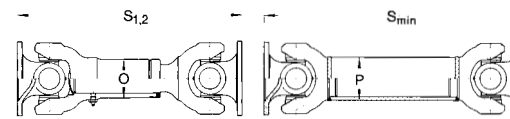
- β = Maximum angle of deflection per joint
- J_m = Moment of inertia
- G = Weight
- S_{min} = Minimum length of tubular types
- S₁ = Compressed lengths of short types
- S₂ = Extension at S_{min} resp. S₁
- X₁ = Extension at S₂
- P₁ = Tube diameter. Dimensions in bold type for normal applications. Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
- P₂ = Alternative tube
- P₃ = Alternative tube

Universal Cardan Drive-Shafts with extension



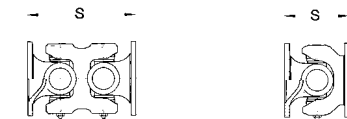
additional spline protection on request

Cardan Drive-Shafts without extension



additional spline protection on request

Universal Joints without extension



Please indicate requested length „S“ and max. r.p.m. when ordering!

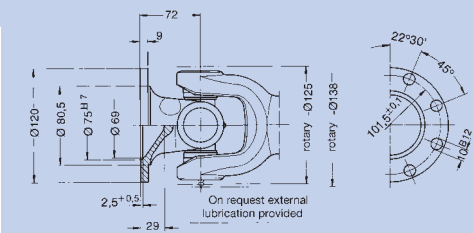
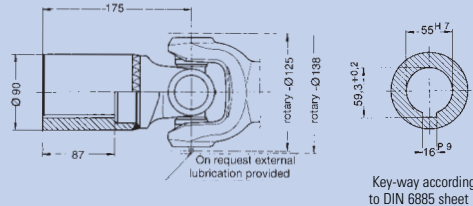
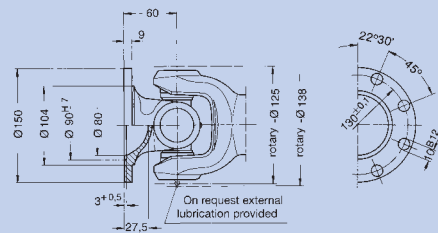
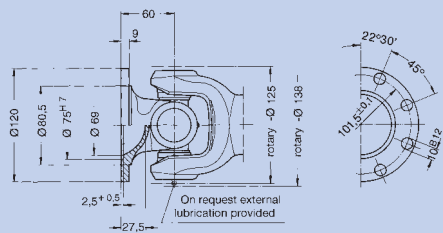
Order number	Tubular Type normal extension				Tubular Type larger extension				Short Type I		
	0.112.100	0.112.101	0.112.102	0.112.105	0.112.110	0.112.111	0.112.112	0.112.115	0.112.130	0.112.131	0.112.132
Angle of deflection β	20	18	20	35	20	18	20	35	20	18	20
Flange-Ø	120	150	Hub	120	120	150	Hub	120	120	150	Hub
S _{min} resp. S ₁	473	473	664	505	523	523	714	580	325	325	515
S ₂	-	-	-	-	-	-	-	-	360	360	550
X resp. X ₁	60	60	60	60	120	120	120	120	35	35	35
X ₂	-	-	-	-	-	-	-	-	50	50	50
P ₁	60 x 4	60 x 4	60 x 4	60 x 4	60 x 4	60 x 4	60 x 4	60 x 4	-	-	-
P ₂	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	80 x 4	-	-	-
P ₃	90 x 4	90 x 4	90 x 4	90 x 4	90 x 4	90 x 4	90 x 4	90 x 4	-	-	-
Spline dim. DIN 5480	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20
Number of flange holes	8	8	-	8	8	8	-	8	8	8	-
J _m (at S _{min} resp. S ₁)	0,01021	0,01390	0,01210	0,01278	0,0108	0,01449	0,01270	0,01560	0,01039	0,01408	0,01230
J _m (at S ₂)	-	-	-	-	-	-	-	-	0,01059	0,01797	0,01248
J _m /100 mm standard tube	0,00045	0,00045	0,00045	0,00045	0,00045	0,00045	0,00045	0,00045	-	-	-
G (at S _{min} resp. S ₁)	10,66	12,02	15,24	10,82	11,55	12,91	16,14	12,53	8,75	10,11	13,33
G (at S ₂)	-	-	-	-	-	-	-	-	9,22	10,58	13,80
G/100 mm standard tube	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55	-	-	-

Short Type II				Tubular Type				Universal Joint Double			Universal Joint Single			
0.112.140	0.112.141	0.112.142	0.112.145	0.112.200	0.112.201	0.112.202	0.112.205	0.112.300	0.112.301	0.112.302	0.112.400	0.112.401	0.112.402	0.112.405
20	18	20	35	20	18	35	35	20	18	20	20	18	35	35
120	150	Hub	120	120	150	Hub	120	120	150	Hub	120	150	Hub	120
400	400	590	435	301	301	490	320	200	200	390	120	120	310	140
430	430	620	470	-	-	-	-	-	-	-	-	-	-	-
60	60	60	60	-	-	-	-	-	-	-	-	-	-	-
60	60	60	60	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	60 x 4	60 x 4	60 x 4	60 x 4	-	-	-	-	-	-	-
-	-	-	-	80 x 4	80 x 4	80 x 4	80 x 4	-	-	-	-	-	-	-
-	-	-	-	90 x 4	90 x 4	90 x 4	90 x 4	-	-	-	-	-	-	-
42x2x20	42x2x20	42x2x20	42x2x20	-	-	-	-	-	-	-	-	-	-	-
8	8	-	8	8	8	-	8	8	8	-	8	8	-	8
0,01195	0,01564	0,01384	0,01323	0,00961	0,0133	0,0115	0,01089	0,00904	0,01273	0,0109	0,00354	0,00723	0,00543	0,00598
0,01199	0,01568	0,01388	0,01327	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0,00045	0,00045	0,00045	0,00045	-	-	-	-	-	-	-
9,66	11,02	14,24	9,99	7,88	9,24	12,45	8,13	6,44	7,8	11,02	3,71	5,07	8,29	3,97
9,99	11,35	14,57	10,32	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0,55	0,55	0,55	0,55	-	-	-	-	-	-	-

Needle or Roller bearing version

At utilisation of the nominal torque a verification of the flange connection is necessary.

One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



On both sides standard flange end number: 0.113.XX0

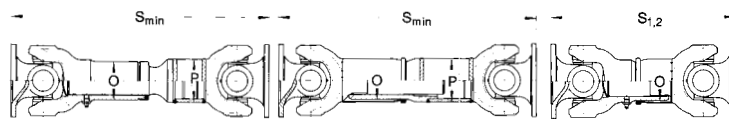
On both sides larger flange end number: 0.113.XX1

On both sides connecting hub without key-way end number: 0.113.XX2 with key-way end number: 0.113.XX3

On both sides flange for larger angle deflection end number: 0.113.XX5

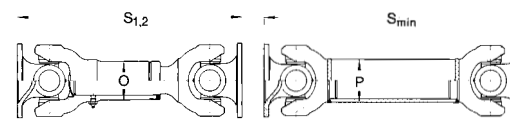
- β = Maximum angle of deflection per joint
Jm = Moment of inertia
G = Weight
Smin = Minimum length of tubular types
S1 = Compressed lengths of short types
X1 = Extension at Smin resp. S1
X2 = Extension at S2
P1 = Tube diameter. Dimensions in bold type for normal applications.
Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
P2 = Alternative tube
P3 = Alternative tube

Universal Cardan Drive-Shafts with extension



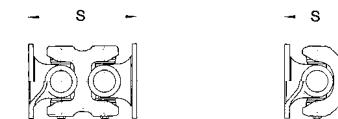
additional spline protection on request

Cardan Drive-Shafts without extension



additional spline protection on request

Universal Joints without extension



Please indicate requested length „S“ and max. r.p.m. when ordering!

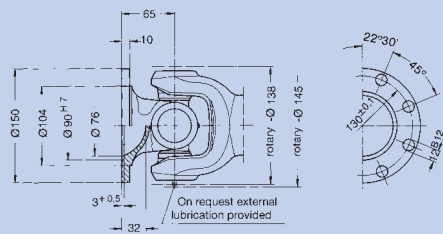
Table with columns for Tubular Type (normal and larger extension) and Short Type I. Rows include Order number, Angle of deflection β, Flange-Ø, Smin, S1, S2, X1, X2, P1, P2, P3, Spline dim., Number of flange holes, Jm, G, and G/100mm standard tube.

Table with columns for Short Type II, Tubular Type, Universal Joint Double, and Universal Joint Single. Rows include Order number, Angle of deflection β, Flange-Ø, Smin, S1, S2, X1, X2, P1, P2, P3, Spline dim., Number of flange holes, Jm, G, and G/100mm standard tube.

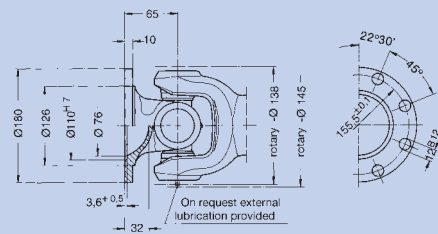
Roller bearing version

At utilisation of the nominal torque a verification of the flange connection is necessary.

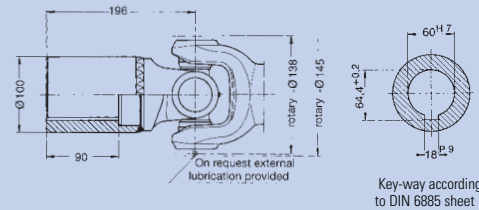
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



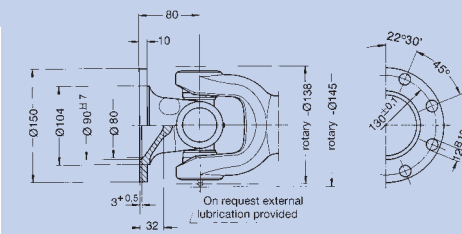
On both sides standard flange
end number: 0.148.XX0



On both sides larger flange
end number: 0.148.XX1



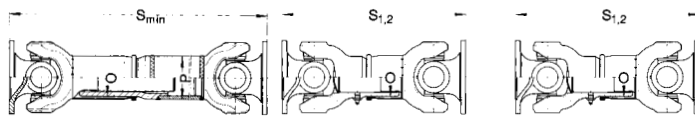
On both sides connecting hub
without key-way end number: 0.148.XX2
with key-way end number: 0.148.XX3



On both sides flange for larger angle deflection
end number: 0.148.XX5

- β = Maximum angle of deflection per joint
- J_m = Moment of inertia
- G = Weight
- S_{min} = Minimum length of tubular types
- S₁ = Compressed lengths
- S₂ = of short types
- X₁ = Extension at S_{min} resp. S₁
- X₂ = Extension at S₂
- P₁ = Tube diameter. Dimensions in bold type for normal applications. Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
- P₂ = Alternative tube
- P₃ = Alternative tube

Universal Cardan Drive-Shafts with extension

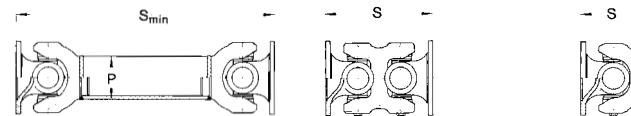


Please indicate requested length „S“ and max. r.p.m. when ordering!

	Tubular Type larger extension				Short Type I			Short Type II			
Order number	0.148.110	0.148.111	0.148.112	0.148.115	0.148.130	0.148.131	0.148.132	0.148.140	0.148.141	0.148.142	0.148.145
Angle of deflection β	20	20	35	35	20	20	20	20	20	20	35
Flange-Ø	150	180	Hub	120/150	150	180	Hub	150	180	Hub	120/150
S _{min} resp. S ₁	550	550	812	580	360	360	622	460	460	722	490
S ₂	-	-	-	-	400	400	662	-	-	-	-
X resp. X ₁	110	110	110	110	40	40	40	80	80	80	80
X ₂	-	-	-	-	80	80	80	-	-	-	-
P ₁	80 x 4	80 x 4	80 x 4	80 x 4	-	-	-	-	-	-	-
P ₂	90 x 4	90 x 4	90 x 4	90 x 4	-	-	-	-	-	-	-
P ₃	100 x 4	100 x 4	100 x 4	100 x 4	-	-	-	-	-	-	-
Spline dim. DIN 5480	55x2,5x20	55x2,5x20	55x2,5x20	55x2,5x20	55x2,5x20	55x2,5x20	55x2,5x20	55x2,5x20	55x2,5x20	55x2,5x20	55x2,5x20
Number of flange holes	8	8	-	8	8	8	-	8	8	-	8
J _m (at S _{min} resp. S ₁)	0,0323	0,0342	0,0406	0,0332	0,0247	0,0267	0,03414	0,0294	0,0314	0,03884	0,0304
J _m (at S ₂)	-	-	-	-	0,0267	0,0287	0,03614	-	-	-	-
J _m /100 mm standard tube	0,00109	0,00109	0,00109	0,00109	-	-	-	-	-	-	-
G (at S _{min} resp. S ₁)	20,87	22,17	29,77	22,19	15,63	16,93	24,53	18,37	19,67	27,27	19,69
G (at S ₂)	-	-	-	-	16,88	16,55	25,77	-	-	-	-
G/100 mm standard tube	0,75	0,75	0,75	0,75	-	-	-	-	-	-	-

Cardan Drive-Shafts without extension

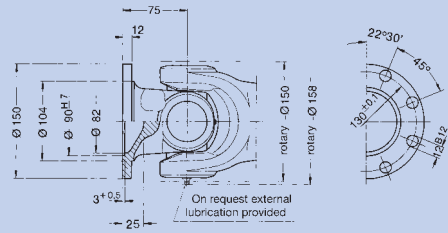
Universal Joints without extension



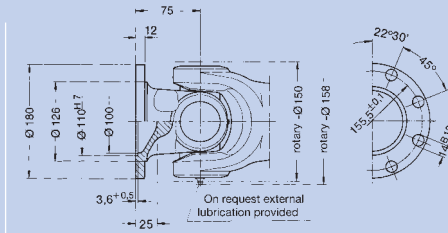
Tubular Type	Universal Joint Double				Universal Joint Single						
Order number	0.148.200	0.148.201	0.148.202	0.148.205	0.148.300	0.148.301	0.148.302	0.148.400	0.148.401	0.148.402	0.148.405
20	20	35	35	20	20	20	20	20	20	35	35
150	180	Hub	120/150	150	180	Hub	150	180	Hub	120/150	
345	345	607	375	235	235	497	130	130	392	160	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
80 x 4	80 x 4	80 x 4	80 x 4	-	-	-	-	-	-	-	
90 x 4	90 x 4	90 x 4	90 x 4	-	-	-	-	-	-	-	
100 x 4	100 x 4	100 x 4	100 x 4	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
8	8	-	8	8	8	-	8	8	-	8	
0,0217	0,0237	0,03144	0,0227	0,0149	0,0161	0,0162	0,0106	0,0126	0,02004	0,0117	
0,00109	0,00109	0,00109	0,00109	-	-	-	-	-	-	-	
14,53	15,83	23,43	15,85	11,92	13,22	20,82	6,75	8,05	15,54	8,08	
-	-	-	-	-	-	-	-	-	-	-	
0,75	0,75	0,75	0,75	-	-	-	-	-	-	-	

Roller bearing version

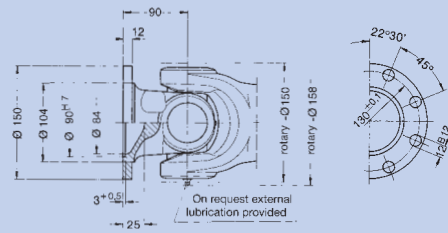
At utilisation of the nominal torque a verification of the flange connection is necessary.



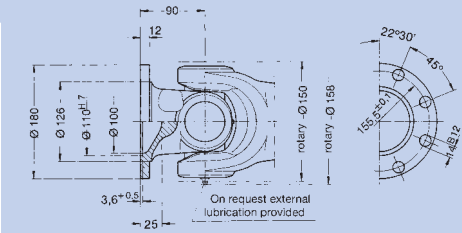
On both sides standard flange
end number: 0.158.XX0



On both sides larger flange
end number: 0.158.XX1



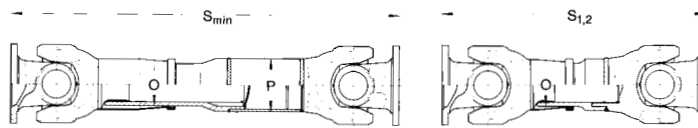
On both sides flange for larger angle deflection
end number: 0.158.XX5



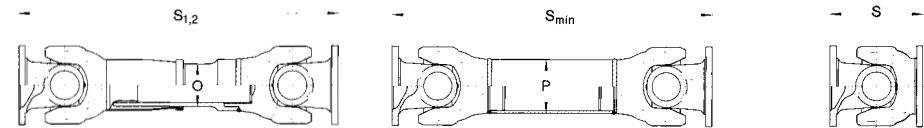
On both sides larger flange for larger angle deflection
end number: 0.158.XX6

β = Maximum angle of deflection per joint
J_m = Moment of inertia
G = Weight
S_{min} = Minimum length of tubular types
S₁ = Compressed lengths
S₂ = of short types
X₁ = Extension at S_{min} resp. S₁
X₂ = Extension at S₂
P₁ = Tube diameter. Dimensions in bold type for normal applications. Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
P₂ = Alternative tube
P₃

Universal Cardan Drive-Shafts with extension



Cardan Drive-Shafts without extension



Universal Joints without extension

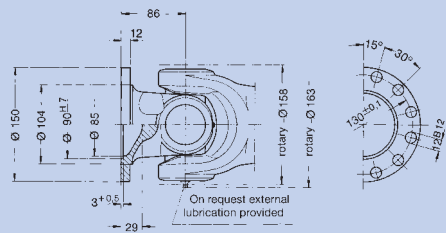
Please indicate requested length „S“ and max. r.p.m. when ordering!

Order number	Tubular Type larger extension				Short Type I			
	0.158.110	0.158.111	0.158.115	0.158.116	0.158.130	0.158.131	0.158.135	0.158.136
Angle of deflection β	20	20	35	35	20	20	35	35
Flange-Ø	150	180	150	180	150	180	150	180
S _{min} resp. S ₁	710	710	742	742	400	400	545	545
S ₂	-	-	-	-	465	465	585	585
X resp. X ₁	110	110	110	110	50	50	40	40
X ₂	-	-	-	-	80	80	80	80
P ₁	90 x 4	90 x 4	90 x 4	90 x 4	-	-	-	-
P ₂	100 x 4	100 x 4	100 x 4	100 x 4	-	-	-	-
P ₃	120 x 5	120 x 5	120 x 5	120 x 5	-	-	-	-
Spline dim. DIN 5480	60x2,5x22 60x2,5x22 60x2,5x22 60x2,5x22				60x2,5x22 60x2,5x22 60x2,5x22 60x2,5x22			
Number of flange holes	8	8	8	8	8	8	8	8
J _m (at S _{min} resp. S ₁)	-	-	0,04531	0,05034	0,04114	0,0464	0,04291	0,04817
J _m (at S ₂)	-	-	-	-	0,04193	0,0472	0,04340	0,04870
J _m /100 mm standard tube	0,00157	0,00157	0,00157	0,00157	-	-	-	-
G (at S _{min} resp. S ₁)	31,1	31,8	31,76	33,38	19,62	21,18	25,92	27,54
G (at S ₂)	-	-	-	-	22,05	23,61	27,27	28,89
G/100 mm standard tube	0,85	0,85	0,85	0,85	-	-	-	-

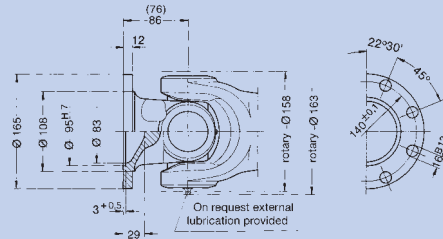
Short Type II				Tubular Type				Universal Joint Single			
0.158.140	0.158.141	0.158.145	0.158.146	0.158.200	0.158.201	0.158.205	0.158.206	0.158.400	0.158.401	0.158.405	0.158.406
20	20	35	35	20	20	35	35	20	20	35	35
150	180	150	180	150	180	150	180	150	180	150	180
610	610	640	640	425	425	455	455	150	150	180	180
650	650	680	680	-	-	-	-	-	-	-	-
110	110	110	110	-	-	-	-	-	-	-	-
130	130	130	130	-	-	-	-	-	-	-	-
-	-	-	-	90 x 4	90 x 4	90 x 4	90 x 4	-	-	-	-
-	-	-	-	100 x 4	100 x 4	100 x 4	100 x 4	-	-	-	-
-	-	-	-	120 x 5	120 x 5	120 x 5	120 x 5	-	-	-	-
60x2,5x22 60x2,5x22 60x2,5x22 60x2,5x22				60x2,5x22 60x2,5x22 60x2,5x22 60x2,5x22				-	-	-	-
8	8	8	8	8	8	8	8	8	8	8	8
-	-	0,04409	0,04935	-	-	0,04340	0,04865	0,02055	0,02581	0,02417	0,02944
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0,00157	0,00157	0,00157	0,00157	-	-	-	-
28,72	30,28	29,14	30,76	20,26	21,82	21,12	22,74	8,34	9,90	9,20	10,82
30,32	31,8	31,09	32,71	-	-	-	-	-	-	-	-
-	-	-	-	0,85	0,85	0,85	0,85	-	-	-	-

Roller bearing version

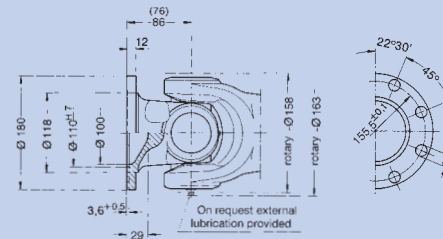
At utilisation of the nominal torque a verification of the flange connection is necessary.



On both sides standard flange
end number: 0.117.XX0



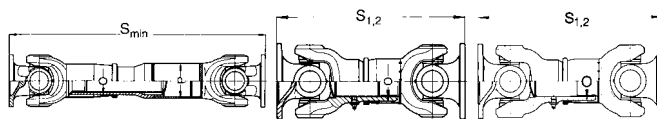
On both sides larger flange (Ø 165 mm)
end number: 0.117.XX1
Dimensions in brackets are only valid for short type I



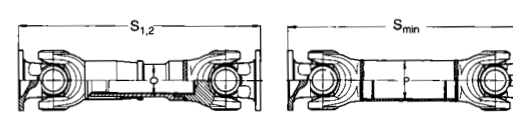
On both sides larger flange (Ø 180 mm)
end number: 0.117.XX1
Dimensions in brackets are only valid for short type I

- β = Maximum angle of deflection per joint
- J_m = Moment of inertia
- G = Weight
- S_{min} = Minimum length of tubular types
- S₁ = Compressed lengths of short types
- S₂ = Extension at S_{min} resp. S₁
- X₁ = Extension at S₂
- X₂ = Extension at S₂
- P₁ = Tube diameter. Dimensions in bold type for normal applications. Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
- P₂ = Alternative tube
- P₃ = Alternative tube

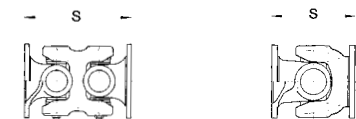
Universal Cardan Drive-Shafts with extension



Cardan Drive-Shafts without extension



Universal Joints without extension



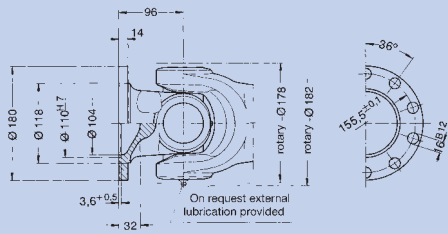
Please indicate requested length „S“ and max. r.p.m. when ordering!

Order number	Tubular Type larger extension			Short Type I		Short Type II		
	0.117.110	0.117.111	0.117.111	0.117.121	0.117.121	0.117.130	0.117.131	0.117.131
Angle of deflection β	30	30	30	24	24	30	30	30
Flange-Ø	150	165	180	165	180	150	165	180
S _{min} resp. S ₁	660	660	660	400	400	495	495	495
S ₂	-	-	-	440	440	555	555	555
X resp. X ₁	110	110	110	40	40	45	45	45
X ₂	-	-	-	50	50	80	80	80
P ₁	100 x 5	100 x 5	100 x 5	-	-	-	-	-
P ₂	120 x 5	120 x 5	120 x 5	-	-	-	-	-
P ₃	-	-	-	-	-	-	-	-
Spline dim. DIN 5480	65x2,5x24	65x2,5x24	65x2,5x24	65x2,5x24	65x2,5x24	65x2,5x24	65x2,5x24	65x2,5x24
Number of flange holes	12	8	8	8	8	12	8	8
J _m (at S _{min} resp. S ₁)	0,04834	0,05185	0,05463	0,0467	0,0491	0,04286	0,04678	0,04917
J _m (at S ₂)	-	-	-	0,04898	0,05138	0,04439	0,04899	0,05139
J _m /100 mm standard tube	0,00265	0,00265	0,00265	-	-	-	-	-
G (at S _{min} resp. S ₁)	35,03	35,51	36,56	25,61	26,52	28,21	28,69	29,74
G (at S ₂)	-	-	-	27,29	28,20	30,88	31,36	32,41
G/100 mm standard tube	1,17	1,17	1,17	-	-	-	-	-

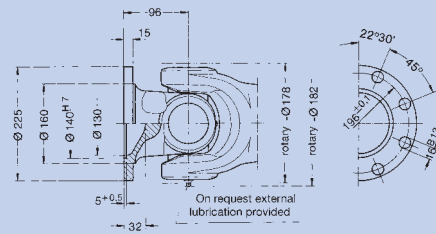
Short Type III			Tubular Type			Universal Joint Double			Universal Joint Single		
0.117.140	0.117.141	0.117.141	0.117.200	0.117.201	0.117.201	0.117.300	0.117.301	0.117.301	0.117.400	0.117.401	0.117.401
30	30	30	30	30	30	15	15	15	30	30	30
150	165	180	150	165	180	150	165	180	150	165	180
600	600	600	430	430	430	296	296	296	172	172	172
110	110	110	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	100 x 5	100 x 5	100 x 5	-	-	-	-	-	-
-	-	-	120 x 5	120 x 5	120 x 5	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
12	8	8	12	8	8	12	8	8	12	8	8
0,04665	0,05125	0,05365	0,04054	0,04424	0,04796	0,037	0,0423	0,0468	0,01879	0,02133	0,02568
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	0,00265	0,00265	0,00265	-	-	-	-	-	-
33,45	33,93	34,98	25,31	25,79	26,84	21,02	21,50	22,57	10,99	11,47	12,52
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	1,17	1,17	1,17	-	-	-	-	-	-

Roller bearing version

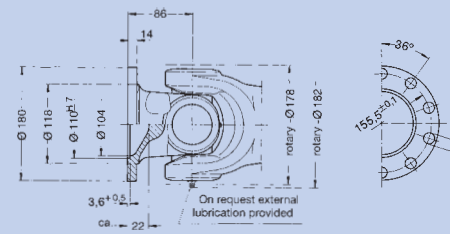
At utilisation of the nominal torque a verification of the flange connection is necessary.



On both sides standard flange
end number: 0.120.XX0



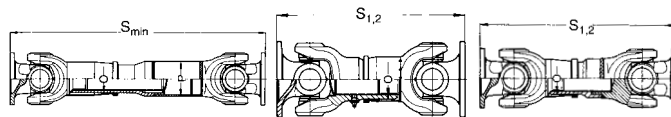
On both sides larger flange
end number: 0.120.XX1



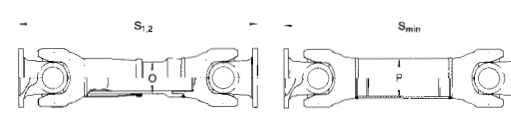
Shorter flange to short type I

β = Maximum angle of deflection per joint
 J_m = Moment of inertia
 G = Weight
 S_{min} = Minimum length of tubular types
 S₁ = Compressed lengths
 S₂ of short types
 X₁ = Extension at S_{min} resp. S₁
 X₂ = Extension at S₂
 P₁ = Tube diameter. Dimensions in bold type for normal applications.
 Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
 P₂
 P₃ = Alternative tube

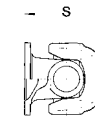
Universal Cardan Drive-Shafts with extension



Cardan Drive-Shafts without extension



Universal Joints without extension



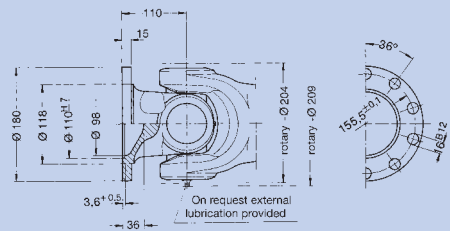
Please indicate requested length „S“ and max. r.p.m. when ordering!

	Tubular Type larger extension		Short Type I	Short Type II	
Order number	0.120.110	0.120.111	0.120.120	0.120.130	0.120.131
Angle of deflection β	30	30	16	30	30
Flange-Ø	180	225	180	180	225
S _{min} resp. S ₁	740	740	470	560	560
S ₂	-	-	500	600	600
X resp. X ₁	110	110	55	45	45
X ₂	-	-	60	60	60
P ₁	110 x 6	110 x 6	-	-	-
P ₂	120 x 6	120 x 6	-	-	-
P ₃	-	-	-	-	-
Spline dim. DIN 5480	75x2,5x28	75x2,5x28	75x2,5x28	75x2,5x28	75x2,5x28
Number of flange holes	10	8	10	10	8
J _m (at S _{min} resp. S ₁)	0,10213	0,14413	0,07320	0,07839	0,12039
J _m (at S ₂)	-	-	0,07493	0,08070	0,12270
J _m /100 mm standard tube	0,004175	0,004175	-	-	-
G (at S _{min} resp. S ₁)	48,75	52,89	36,26	40,27	44,41
G (at S ₂)	-	-	37,76	42,42	46,56
G/100 mm standard tube	1,54	1,54	-	-	-

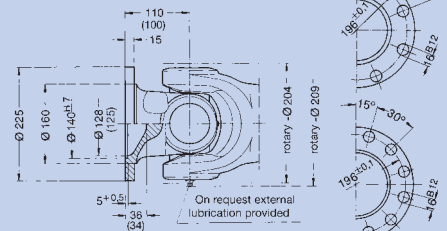
Short Type III		Tubular Type		Universal Joint Single	
0.120.140	0.120.141	0.120.200	0.120.201	0.120.400	0.120.401
30	30	30	30	30	30
180	225	180	225	180	225
650	650	465	465	192	192
-	-	-	-	-	-
110	110	-	-	-	-
-	-	-	-	-	-
-	-	110 x 6	110 x 6	-	-
-	-	120 x 6	120 x 6	-	-
-	-	-	-	-	-
75x2,5x28	75x2,5x28	-	-	-	-
10	8	10	8	10	8
0,08228	0,12428	0,07247	0,11447	0,03696	0,07896
-	-	-	-	-	-
-	-	0,004175	0,004175	-	-
45,10	49,24	33,90	38,05	14,10	18,88
-	-	-	-	-	-
-	-	1,54	1,54	-	-

Roller bearing version

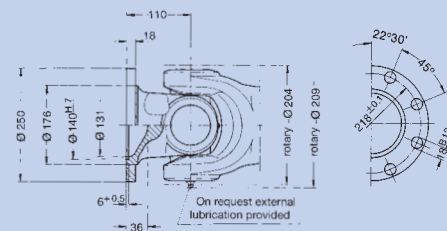
At utilisation of the nominal torque a verification of the flange connection is necessary.



On both sides standard flange
end number: 0.122.XX0



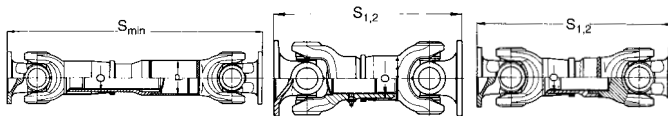
On both sides larger flange (Ø 225 mm)
end number: 0.122.XX1
Dimensions in brackets are only valid for short type I



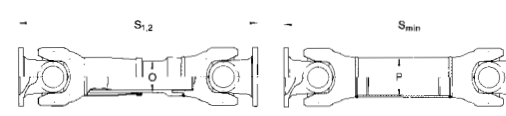
On both sides larger flange (Ø 250 mm)
end number: 0.122.XX1

- β = Maximum angle of deflection per joint
- J_m = Moment of inertia
- G = Weight
- S_{min} = Minimum length of tubular types
- S₁ = Compressed lengths of short types
- S₂ = Extension at S_{min} resp. S₁
- X₁ = Extension at S₂
- X₂ = Tube diameter. Dimensions in bold type for normal applications. Alternative dimensions are for long shafts at high speeds, see technical annex domain speed
- P₂ = Alternative tube
- P₃ = Alternative tube

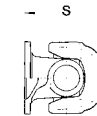
Universal Cardan Drive-Shafts with extension



Cardan Drive-Shafts without extension



Universal Joints without extension

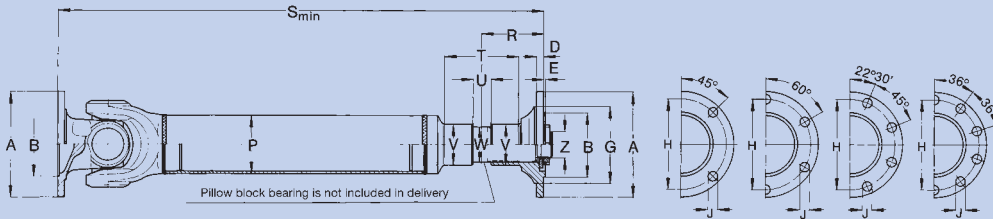


Please indicate requested length „S“ and max. r.p.m. when ordering!

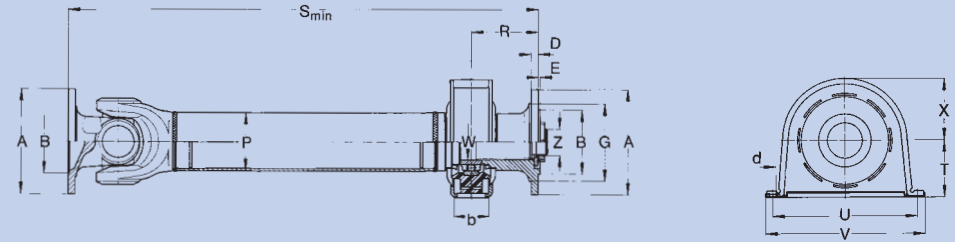
	Tubular Type larger extension				Short Type I				Short Type II			
Order number	0.122.110	0.122.111	0.122.111	0.122.111	0.122.121	0.122.130	0.122.131	0.122.131	0.122.131	0.122.131	0.122.131	0.122.131
Angle of deflection β	30	30	30	25	25	30	30	30	25	25	30	25
Flange-Ø	180	225	225	250	225	180	225	225	250	225	180	225
S _{min} resp. S ₁	830	830	830	830	550	650	650	650	650	650	650	650
S ₂	-	-	-	-	600	-	-	-	-	-	-	-
X resp. X ₁	140	140	140	140	40	80	80	80	80	80	80	80
X ₂	-	-	-	-	55	-	-	-	-	-	-	-
P ₁	120 x 6	120 x 6	124 x 8	124 x 8	-	-	-	-	-	-	-	-
P ₂	140 x 6,5	140 x 6,5	140 x 6,5	140 x 6,5	-	-	-	-	-	-	-	-
P ₃	-	-	-	-	-	-	-	-	-	-	-	-
Spline dim. DIN 5480	90x2,5x34	90x2,5x34	90x2,5x34	90x2,5x34	90x2,5x34	90x2,5x34	90x2,5x34	90x2,5x34	90x2,5x34	90x2,5x34	90x2,5x34	90x2,5x34
Number of flange holes	10	8	12	8	8	10	8	12	8	8	10	8
J _m (at S _{min} resp. S ₁)	0,1558	0,1781	0,1792	0,1884	0,1453	0,1202	0,1565	0,1565	0,1853	0,1853	0,1202	0,1565
J _m (at S ₂)	-	-	-	-	0,1509	-	-	-	-	-	-	-
J _m /100 mm standard tube	0,00550	0,00550	0,00774	0,00774	-	-	-	-	-	-	-	-
G (at S _{min} resp. S ₁)	72,05	76,93	77,49	80,82	61,04	60,67	65,55	65,55	68,79	68,79	60,67	65,55
G (at S ₂)	-	-	-	-	64,85	-	-	-	-	-	-	-
G/100 mm standard tube	1,69	1,69	2,29	2,29	-	-	-	-	-	-	-	-

Short Type III				Tubular Type				Universal Joint Single			
0.122.140	0.122.141	0.122.141	0.122.141	0.122.200	0.122.201	0.122.201	0.122.201	0.122.400	0.122.401	0.122.401	0.122.401
30	30	30	25	30	30	30	25	30	30	30	25
180	225	225	250	180	225	225	250	180	225	225	250
720	720	720	720	520	520	520	520	220	220	220	220
110	110	110	110	-	-	-	-	-	-	-	-
-	-	-	-	120 x 6	120 x 6	124 x 8	124 x 8	-	-	-	-
-	-	-	-	140 x 6,5	140 x 6,5	140 x 6,5	140 x 6,5	-	-	-	-
90x2,5x34	90x2,5x34	90x2,5x34	90x2,5x34	-	-	-	-	-	-	-	-
10	8	12	8	10	8	12	8	10	8	12	8
0,1272	0,1636	0,1636	0,1840	0,1195	0,1642	0,1645	0,1846	0,05597	0,0923	0,0923	0,1211
-	-	-	-	0,00550	0,00550	0,00774	0,00774	-	-	-	-
66,07	70,95	70,95	74,19	45,70	50,58	50,91	54,24	20,77	25,64	25,64	28,86
-	-	-	-	1,69	1,69	2,29	2,29	-	-	-	-

At utilisation of the nominal torque a verification of the flange connection is necessary.



For missing dimensions and details see according series.



For missing dimensions and details see according series. Flange illustrations see intermediate shafts without pillow block bearings.

Please indicate requested length „S“ and max. r.p.m. when ordering!

Universal-Joint Intermediate Shaft for SKF-pillow block bearing (are not included in delivery)

Table with columns for Order number, Nm, and various dimensions (A, B, D, E, G, H, J, P1, P2, P3, R, S_min, T, U, V, W, Z, Weight, Tooth/spline dim., Number of flange holes, Jm, Jm/100 mm standard tube, G, G/100 mm standard tube) for shaft sizes 0.109.250 to 0.122.251.

Please indicate requested length „S“ and max. r.p.m. when ordering!

Universal-Joint Intermediate Shaft cpl. with elastic pillow block bearing

Table with columns for Order number, Nm, and various dimensions (A, B, D, d, E, G, H, J, P1, P2, P3, R, S_min, T, U, V, W, X, Z, Tooth/spline dim., Number of flange holes, Jm, Jm/100 mm standard tube, G, G/100 mm standard tube) for shaft sizes 0.109.260 to 0.120.260.

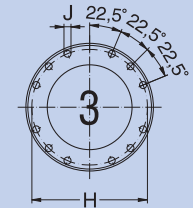
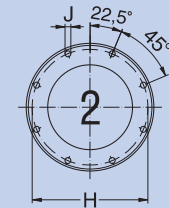
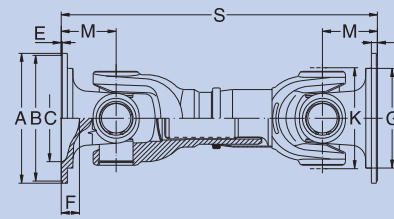
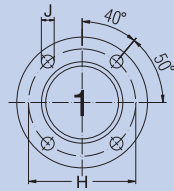
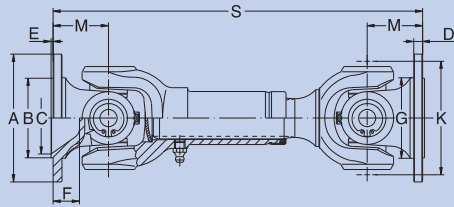
β = Maximum angle of deflection per joint
Jm = Moment of inertia
G = Weight
S_min = Minimum length of tubular types

P1 = Tube diameter. Dimensions in bold type for normal applications.
Alternative dimensions are for long shafts at high speeds, see technical annex domain speed

P2 = Alternative tube
P3 = Alternative tube

for SAE-flange-connection, with extension

At utilisation of the nominal torque a verification of the flange connection is necessary.



For missing dimensions and details see according series.

For missing dimensions and details see according series.

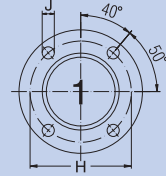
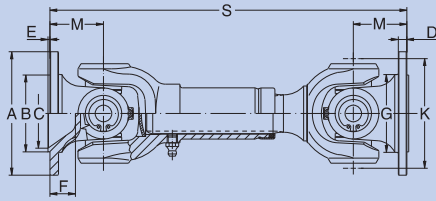
Please indicate compressed length „S“ and max. r.p.m. when ordering!

		Cardan-Drive-Shafts for SAE-flange-connection, with extension; Size 0.107						Size 0.109		Size 0.110									
Order number		0.107.138.001	0.107.138.002	0.107.148.001	0.107.148.002	0.107.108.001	0.107.118.001	0.109.138.201	0.109.138.202	0.109.148.201	0.109.148.202	0.109.108.201	0.109.118.201	0.110.138.001	0.110.138.002	0.110.148.001	0.110.148.002	0.110.108.001	0.110.118.001
SAE-flange-connection		1100	1100	1100	1100	1100	1100	1310	1310	1310	1310	1310	1310	1350/1410	1350/1410	1350/1410	1350/1410	1350/1410	1350/1410
Elbe joint size		0.107	0.107	0.107	0.107	0.107	0.107	0.109	0.109	0.109	0.109	0.109	0.109	0.110	0.110	0.110	0.110	0.110	0.110
Md _{Nom}	Nm	920	920	920	920	920	920	1700	1700	1700	1700	1700	1700	2300	2300	2300	2300	2300	2300
Angle of deflection β	°	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
A	mm	87,3	87,3	87,3	87,3	87,3	87,3	96,8	96,8	96,8	96,8	96,8	96,8	116	116	116	116	116	116
B _{-0,04}	mm	57,15	57,15	57,15	57,15	57,15	57,15	60,32	60,32	60,32	60,32	60,32	60,32	69,85	69,85	69,85	69,85	69,85	69,85
C	mm	44	44	44	44	44	44	54	54	54	54	54	54	55	55	55	55	55	55
D	mm	5,2	5,2	5,2	5,2	5,2	5,2	6,7	6,7	6,7	6,7	6,7	6,7	7,5	7,5	7,5	7,5	7,5	7,5
E	mm	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}	1,5 _{-0,1}
F	mm	18	18	18	18	18	18	21,5	21,5	21,5	21,5	21,5	21,5	20	20	20	20	20	20
G	mm	54	54	54	54	54	54	61	61	61	61	61	61	68	68	68	68	68	68
H _{±0,1}	mm	69,85	69,85	69,85	69,85	69,85	69,85	79,4	79,4	79,4	79,4	79,4	79,4	95,25	95,25	95,25	95,25	95,25	95,25
J ^{B12}	mm	7,9	7,9	7,9	7,9	7,9	7,9	9,5	9,5	9,5	9,5	9,5	9,5	11,2	11,2	11,2	11,2	11,2	11,2
K	mm	70	70	70	70	70	70	86	86	86	86	86	86	98	98	98	98	98	98
M	mm	36	36	36	36	36	36	42	42	42	42	42	42	46	46	46	46	46	46
S _{min}	mm	200	225	250	270	300	360	225	250	280	310	348	393	255	280	310	340	374	464
X (extension)	mm	25	35	35	35	35	70	25	40	40	40	40	80	30	40	40	40	40	100
Tooth/spline dim.	mm	28x1,5x17	28x1,5x17	28x1,5x17	28x1,5x17	28x1,5x17	28x1,5x17	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16
Type of flange		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

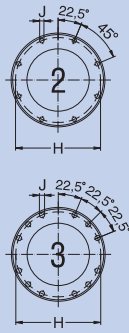
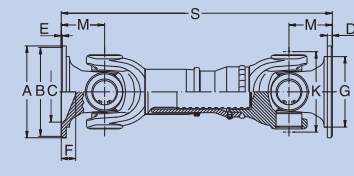
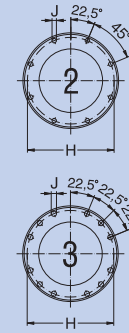
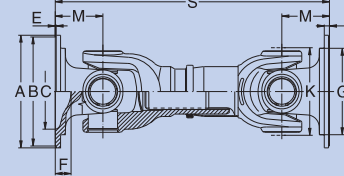
β = Maximum angle of deflection per joint
S = Compressed lengths; corresponds to the length of standard type

for SAE-flange-connection, with extension

At utilisation of the nominal torque a verification of the flange connection is necessary.



For missing dimensions and details see according series.



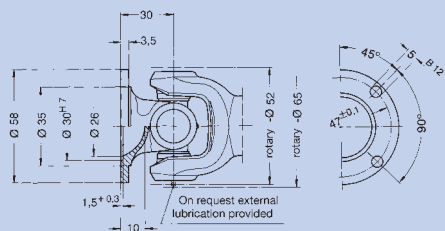
For missing dimensions and details see according series.

Please indicate compressed length „S“ and max. r.p.m. when ordering!

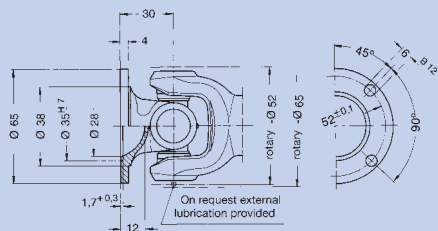
	Cardan-Drive-Shafts for SAE-flange-connection, with extension; Size 0.112								Size 0.148				Size 0.120				Size 0.122		
Order number	0.112.138.201	0.112.138.202	0.112.148.201	0.112.148.202	0.112.108.201	0.112.118.201	0.148.138.001	0.148.138.002	0.148.148.001	0.148.118.001	0.120.138.001	0.120.138.002	0.120.148.001	0.120.118.001	0.122.138.001	0.122.148.001	0.122.118.001		
SAE-flange-connection	1510	1510	1510	1510	1510	1510	1600	1600	1600	1600	1800	1800	1800	1800	1900	1900	1900		
Elbe joint size	0.112	0.112	0.112	0.112	0.112	0.112	0.148	0.148	0.148	0.148	0.120	0.120	0.120	0.120	0.122	0.122	0.122		
Md _{Nom} Nm	3350	3350	3350	3350	3350	3350	5500	5500	5500	5500	16850	16850	16850	16850	26750	26750	26750		
Angle of deflection β °	18	18	18	18	18	18	18	18	18	18	30	30	30	30	30	30	30		
A mm	146	146	146	146	146	146	174,6	174,6	174,6	174,6	203,2	203,2	203,2	203,2	276,2	276,2	276,2		
B _{-0,04} mm	95,25	95,25	95,25	95,25	95,25	95,25	168,22	168,22	168,22	168,22	196,82	196,82	196,82	196,82	222,2	222,2	222,2		
C mm	82	82	82	82	82	82	98	98	98	98	135	135	135	137,5	137,5	137,5	137,5		
D mm	9,1	9,1	9,1	9,1	9,1	9,1	9,5	9,5	9,5	9,5	11,1	11,1	11,1	14,2	14,2	14,2	14,2		
E mm	1,5 ^{-0,1}	1,5 ^{-0,1}	1,5 ^{-0,1}	1,5 ^{-0,1}	1,5 ^{-0,1}	1,5 ^{-0,1}	1,6 ^{+0,2}	1,6 ^{+0,2}	1,6 ^{+0,2}	1,6 ^{+0,2}	2,3 ^{+0,2}	2,3 ^{+0,2}	2,3 ^{+0,2}	2,3 ^{+0,2}	2,4 ^{+0,2}	2,4 ^{+0,2}	2,4 ^{+0,2}		
F mm	33	33	33	33	33	33	35	35	35	35	32	32	32	32	37	37	37		
G mm	90	90	90	90	90	90	132	132	132	132	156	156	156	190	190	190	190		
H _{±0,1} mm	120,65	120,65	120,65	120,65	120,65	120,65	155,6	155,6	155,6	155,6	184,15	184,15	184,15	247,6	247,6	247,6	247,6		
J ^{β12} mm	12,7	12,7	12,7	12,7	12,7	12,7	9,5	9,5	9,5	9,5	11,2	11,2	11,2	16	16	16	16		
K mm	115	115	115	115	115	115	145	145	145	145	178	178	178	204	204	204	204		
M mm	60	60	60	60	60	60	65	65	65	65	96	96	96	111	111	111	111		
S _{min} mm	325	360	400	430	473	523	360	400	460	550	560	600	650	740	652	720	830		
X (extension) mm	35	50	60	60	60	120	40	80	80	110	45	60	110	110	80	110	140		
Tooth/spline dim. mm	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20	55x2,5x20	55x2,5x20	55x2,5x20	55x2,5x20	75x2,5x28	75x2,5x28	75x2,5x28	75x2,5x28	90x2,5x34	90x2,5x34	90x2,5x34		
Type of flange	1	1	1	1	1	1	2	2	2	2	3	3	3	3	2	2	2		

β = Maximum angle of deflection per joint
S = Compressed lengths; corresponds to the length of standard type

At utilisation of the nominal torque a verification of the flange connection is necessary.

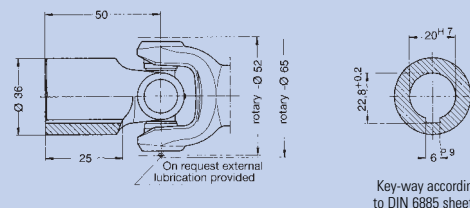


Standard flange
end number: 0.105.XX0



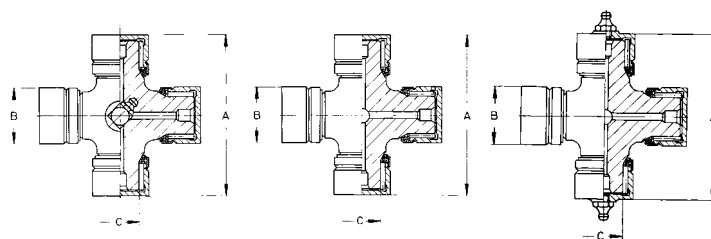
Larger flange
end number: 0.105.XX1

One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



Connecting hub
without key-way end number: 0.105.XX2
with key-way end number: 0.105.XX3

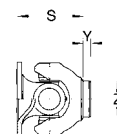
Cross Units, Needle bearing version



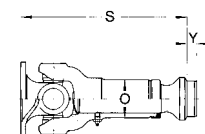
		Standard version Needle bearing	Lubrication for version 0.100.3XX Needle bearing	Version suitable for external lubrication Needle bearing
Order number		0.105.010	0.105.011	0.105.012
A	mm	41	41	41
B	mm	17	17	17
C	mm	9	9	9
Snap rings included	mm	J 17 x 1	J 17 x 1	J 17 x 1
Weight	kg	0,098	0,098	0,102

β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

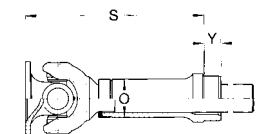
Fixed joint



Slip joint



Slip joint (sliding sleeve type)

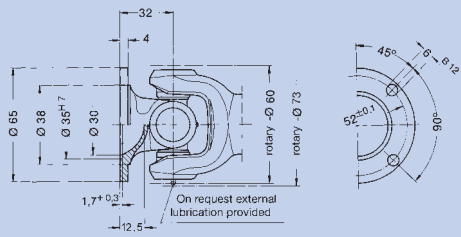


Please indicate compressed length „S“, extension and required type of flange when ordering!

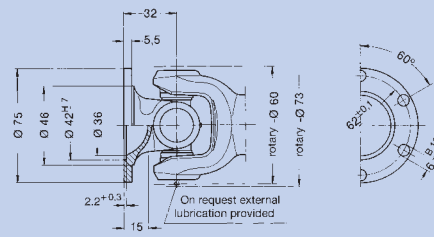
	Needle bearing version											
	without extension				standard extension				larger extension			
Order number	0.105.050	0.105.051	0.105.052	–	0.105.060	0.105.061	0.105.062	–	0.105.070	0.105.071	0.105.072	–
Angle of deflection β °	30	25	30	–	30	25	30	–	30	25	30	–
Weight kg	0,42	0,46	0,49	–	0,73	0,77	0,80	–	0,79	0,83	0,86	–
Flange-Ø mm	58	65	Hub	–	58	65	Hub	–	58	65	Hub	–
S mm	62	62	82	–	150	150	170	–	160	160	180	–
X mm	–	–	–	–	25	25	25	–	40	40	40	–
Y mm	13	13	13	–	13	13	13	–	8	8	8	–
Z mm	25,25	25,25	25,25	–	25,25	25,25	25,25	–	25,25	25,25	25,25	–
Spline dim. DIN 5480 mm	–	–	–	–	20x1,5x12	20x1,5x12	20x1,5x12	–	20x1,5x12	20x1,5x12	20x1,5x12	–
Number of flange holes	4	4	–	–	4	4	–	–	4	4	–	–

At utilisation of the nominal torque a verification of the flange connection is necessary.

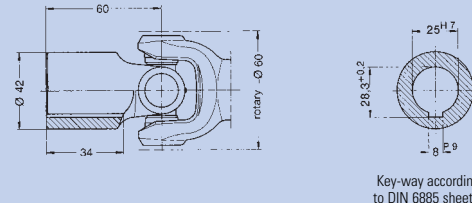
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



Standard flange
end number: 0.106.XX0



Larger flange
end number: 0.106.XX1



Connecting hub
without key-way end number: 0.106.XX2
with key-way end number: 0.106.XX3

Cross Units, Needle bearing version



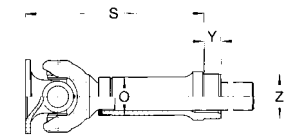
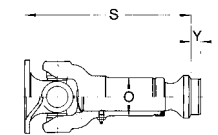
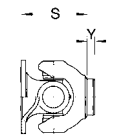
		Standard version Needle bearing		Version suitable for external lubrication Needle bearing
Order number	0.106.010			0.106.012
A	mm	48		48
B	mm	19		19
C	mm	12,7		12,7
Snap rings included	mm	J 19 x 1		J 19 x 1
Weight	kg	0,14		0,144

β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

Fixed joint

Slip joint

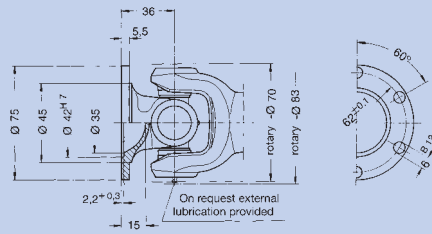
Slip joint (sliding sleeve type)



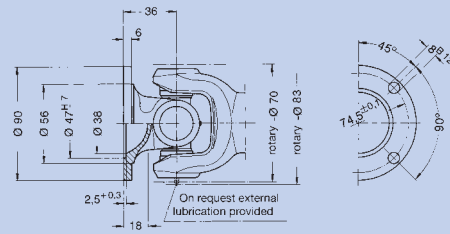
Please indicate compressed length „S“, extension and required type of flange when ordering!

	Needle bearing version											
	without extension				standard extension				larger extension			
Order number	0.106.050	0.106.051	0.106.052	–	0.106.060	0.106.061	0.106.062	–	0.106.070	0.106.071	0.106.072	–
Angle of deflection β °	30	20	30	–	30	20	30	–	30	20	30	–
Weight kg	0,56	0,65	1,30	–	1,18	1,27	1,30	–	1,25	1,34	1,37	–
Flange-Ø mm	65	75	Hub	–	65	75	Hub	–	65	75	Hub	–
S mm	64	64	92	–	167	167	195	–	177	177	205	–
X mm	–	–	–	–	30	30	30	–	60	60	60	–
Y mm	13	13	13	–	13	13	13	–	9	9	9	–
Z mm	29,25	29,25	29,25	–	29,25	29,25	29,25	–	29,25	29,25	29,25	–
Spline dim. DIN 5480 mm	–	–	–	–	25x1,5x15	25x1,5x15	25x1,5x15	–	25x1,5x15	25x1,5x15	25x1,5x15	–
Number of flange holes	4	6	–	–	4	6	–	–	4	6	–	–

At utilisation of the nominal torque a verification of the flange connection is necessary.

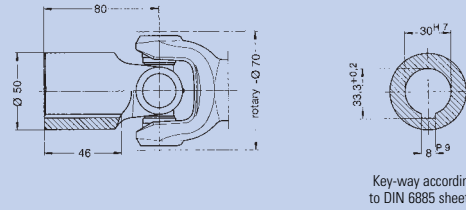


Standard flange
end number: 0.107.XX0



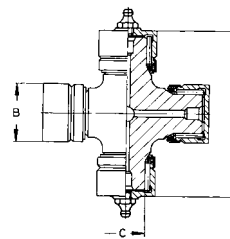
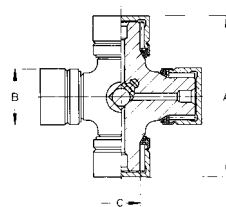
Larger flange
end number: 0.107.XX1

One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



Connecting hub
without key-way end number: 0.107.XX2
with key-way end number: 0.107.XX3

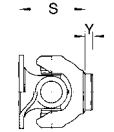
Cross Units, Needle bearing version



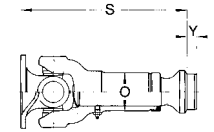
		Standard version Needle bearing		Version suitable for external lubrication Needle bearing
Order number		0.107.010		0.107.012
A	mm	58		58
B	mm	22		22
C	mm	13,35		16
Snap rings included	mm	J 22 x 1		J 22 x 1
Weight	kg	0,224		0,228

β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

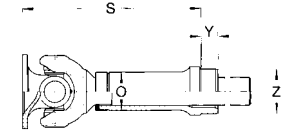
Fixed joint



Slip joint



Slip joint (sliding sleeve type)

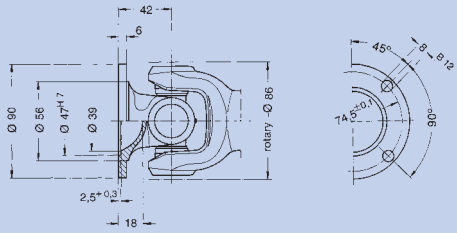


Please indicate compressed length „S“, extension and required type of flange when ordering!

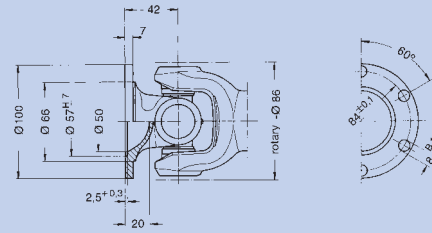
	Needle bearing version											
	without extension				standard extension				larger extension			
Order number	0.107.050	0.107.051	0.107.052	–	0.107.060	0.107.061	0.107.062	–	0.107.070	0.107.071	0.107.072	–
Angle of deflection β °	30	18	30	–	30	18	30	–	30	18	30	–
Weight kg	0,91	1,06	1,25	–	1,63	1,78	1,97	–	1,98	2,13	2,32	–
Flange-Ø mm	75	90	Hub	–	75	90	Hub	–	75	90	Hub	–
S mm	82	82	126	–	187	187	231	–	197	197	241	–
X mm	–	–	–	–	35	35	35	–	70	70	70	–
Y mm	13	13	13	–	13	13	13	–	15	15	15	–
Z mm	36,25	36,25	36,25	–	36,25	36,25	36,25	–	36,25	36,25	36,25	–
Spline dim. DIN 5480	–	–	–	–	28x1,5x17	28x1,5x17	28x1,5x17	–	28x1,5x17	28x1,5x17	28x1,5x17	–
Number of flange holes	6	4	–	–	6	4	–	–	6	4	–	–

At utilisation of the nominal torque a verification of the flange connection is necessary.

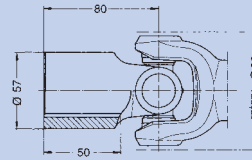
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



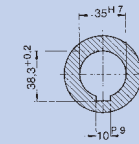
Standard flange
end number: 0.109.XX0



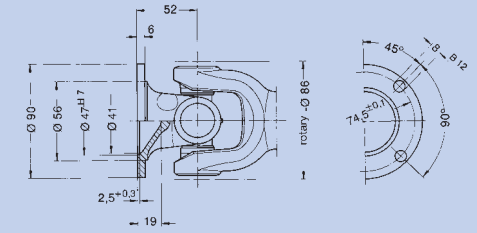
Larger flange
end number: 0.109.XX1



Connecting hub
without key-way end number: 0.109.XX2
with key-way end number: 0.109.XX3

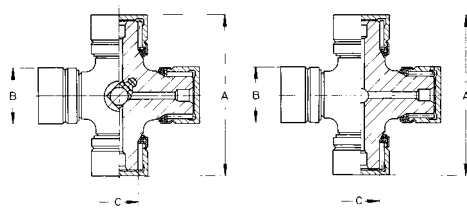


Key-way according to DIN 6885 sheet 1



Flange for larger deflection
end number: 0.109.XX5

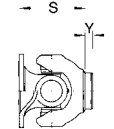
Cross Units, Needle bearing version



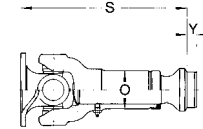
		Standard version Needle bearing	Lubrication for Version 0.100.3XX Needle bearing
Order number	0.109.010		0.109.011
A	mm	70,9	70,9
B	mm	28,5	28,5
C	mm	19,87	19,87
Snap rings included	mm	J 29 x 1,2	J 29 x 1,2
Weight	kg	0,508	0,504

β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

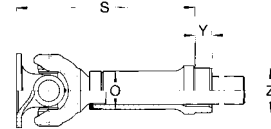
Fixed joint



Slip joint



Slip joint (sliding sleeve type)

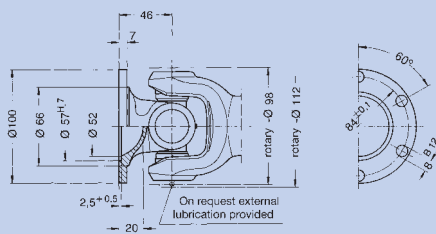


Please indicate compressed length „S“, extension and required type of flange when ordering!

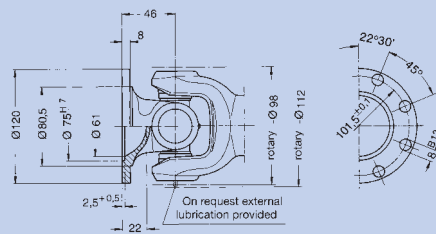
	Needle bearing version											
	without extension				standard extension				larger extension			
Order number	0.109.050	0.109.051	0.109.052	0.109.055	0.109.060	0.109.061	0.109.062	0.109.065	0.109.070	0.109.071	0.109.072	0.109.075
Angle of deflection β °	20	18	20	35	20	18	20	35	20	18	20	35
Weight kg	1,82	1,93	2,21	1,90	3,01	3,12	3,40	3,12	3,39	3,50	3,78	3,61
Flange-Ø mm	90	100	Hub	90	90	100	Hub	90	90	100	Hub	90
S mm	90	90	128	100	225	225	263	242	222	222	260	241
X mm	-	-	-	-	40	40	40	40	80	80	80	80
Y mm	14	14	14	14	15	15	15	15	18	18	18	18
Z mm	46,25	46,25	46,25	46,25	46,25	46,25	46,25	46,25	46,25	46,25	46,25	46,25
Spline dim. DIN 5480 mm	-	-	-	-	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14	32x2x14
Number of flange holes	4	6	-	4	4	6	-	4	4	6	-	4

At utilisation of the nominal torque a verification of the flange connection is necessary.

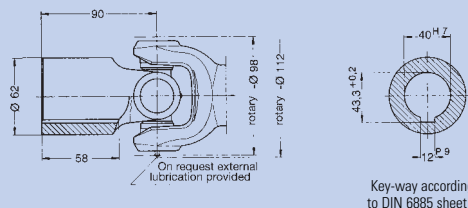
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



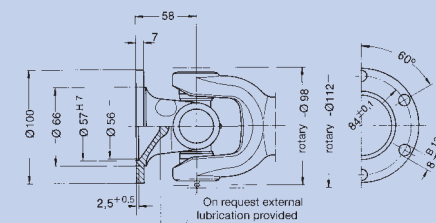
Standard flange
end number: 0.110.XX0



Larger flange
end number: 0.110.XX1

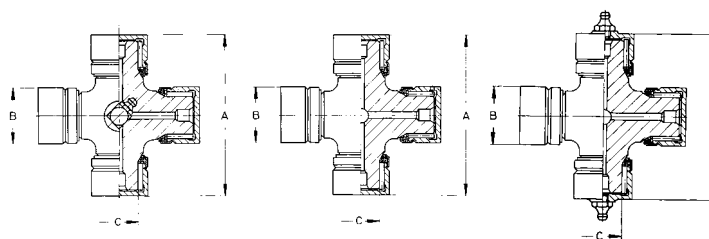


Connecting hub
without key-way end number: 0.110.XX2
with key-way end number: 0.110.XX3



Flange for larger deflection
end number: 0.110.XX5

Cross Units, Roller bearing version



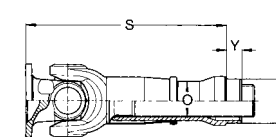
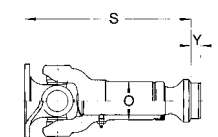
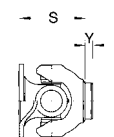
		Standard version Roller bearing	Lubrication for version 0.100.3XX Roller bearing	Version suitable for external lubrication Roller bearing
Order number	0.110.015		0.110.017	0.110.016
A	mm	83	83,05	83
B	mm	30	30	30
C	mm	20,02	20,02	20,02
Snap rings included	mm	J 30 x 1,2	J 30 x 1,2	J 30 x 1,2
Weight	kg	0,66	0,65	0,66

β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

Fixed joint

Slip joint

Slip joint (sliding sleeve type)

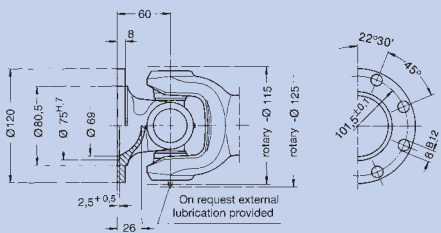


Please indicate compressed length „S“, extension and required type of flange when ordering!

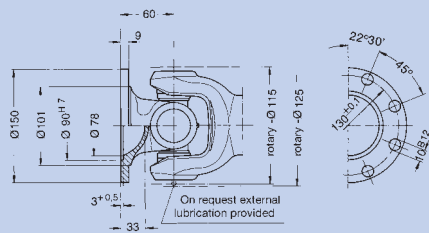
	Roller bearing version											
	without extension				standard extension				larger extension			
Order number	0.110.050	0.110.051	0.110.052	0.110.055	0.110.060	0.110.061	0.110.062	0.110.065	0.110.070	0.110.071	0.110.072	0.110.075
Angle of deflection β °	20	18	20	35	20	18	20	35	20	18	20	35
Weight kg	2,38	2,60	2,75	2,45	3,83	4,06	4,20	4,01	4,70	4,92	5,07	4,77
Flange-Ø mm	100	120	Hub	100	100	120	Hub	100	100	120	Hub	100
S mm	105	105	149	117	237	237	281	256	244	244	288	256
X mm	-	-	-	-	40	40	40	40	100	100	100	100
Y mm	15	15	15	15	15	15	15	15	18	18	18	18
Z mm	44,25	44,25	44,25	44,25	44,25	44,25	44,25	44,25	44,25	44,25	44,25	44,25
Spline dim. DIN 5480 mm	-	-	-	-	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16	35x2x16
Number of flange holes	6	8	-	6	6	8	-	6	6	8	-	6

At utilisation of the nominal torque a verification of the flange connection is necessary.

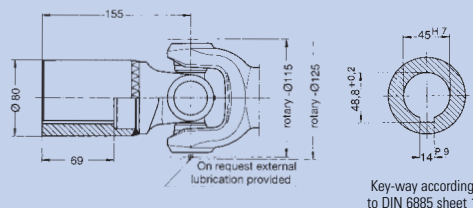
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



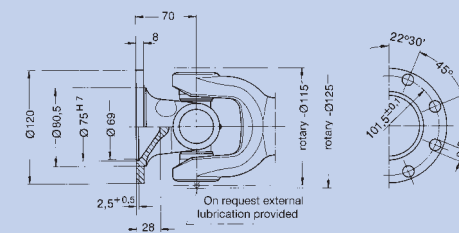
Standard flange
end number: 0.112.XX0



Larger flange
end number: 0.112.XX1

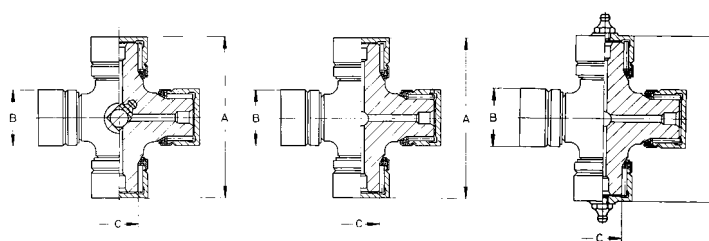


Connecting hub
without key-way end number: 0.112.XX2
with key-way end number: 0.112.XX3



Flange for larger angle of deflection
end number: 0.112.XX5

Cross Units



β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

Fixed joint

Slip joint

Slip joint (sliding sleeve type)

		Needle bearing version		
		Standard version Needle bearing	Lubrication for version 0.100.3XX Needle bearing	Version suitable for external lubrication Needle bearing
Order number		0.112.010	0.112.011	0.112.012
A	mm	97	97	97
B	mm	35	35	35
C	mm	23,04	23,04	23,04
Snap rings included	mm	J 35 x 1,5	J 35 x 1,5	J 35 x 1,5
Weight	kg	1,03	1,02	1,03

		Roller bearing version		
		Standard version Roller bearing	Lubrication for version 0.100.3XX Roller bearing	Version suitable for external lubrication Roller bearing
Order number		0.112.015	0.112.017	0.112.016
A	mm	97	97	97
B	mm	35	35	35
C	mm	24,8	24,8	24,8
Snap rings included	mm	J 35 x 1,5	J 35 x 1,5	J 35 x 1,5
Weight	kg	1,06	1,05	1,06

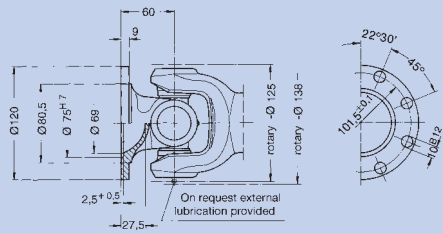
Please indicate compressed length „S“, extension and required type of flange when ordering!

Needle resp. Roller bearing version

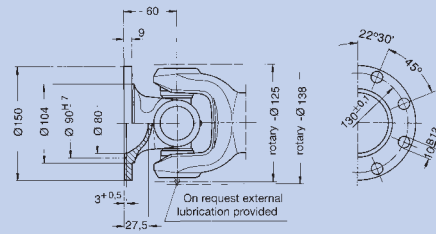
	without extension				standard extension				larger extension			
	0.112.050	0.112.051	0.112.052	0.112.055	0.112.060	0.112.061	0.112.062	0.112.065	0.112.070	0.112.071	0.112.072	0.112.075
Order number												
Angle of deflection β °	20	18	20	35	20	18	20	35	20	18	20	35
Weight kg	3,80	4,48	6,09	3,93	6,63	7,31	8,92	6,73	7,26	7,94	9,55	7,94
Flange-Ø mm	120	150	Hub 120	120	120	150	Hub 120	120	120	150	Hub 120	120
S mm	125	125	220	135	306	306	401	330	308	308	403	325
X mm	-	-	-	-	60	60	60	60	120	120	120	120
Y mm	20	20	20	20	20	20	20	20	20	20	20	20
Z mm	52,25	52,25	52,25	52,25	52,25	52,25	52,25	52,25	52,25	52,25	52,25	52,25
Spline dim. DIN 5480 mm	-	-	-	-	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20	42x2x20
Number of flange holes	8	8	-	8	8	8	-	8	8	8	-	8

At utilisation of the nominal torque a verification of the flange connection is necessary.

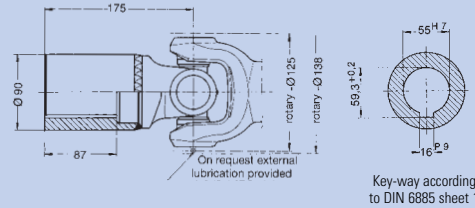
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



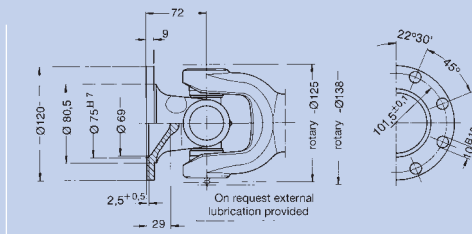
Standard flange
end number: 0.113.XX0



Larger flange
end number: 0.113.XX1

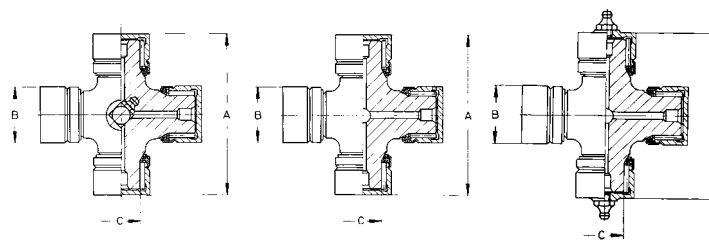


Connecting hub
without key-way end number: 0.113.XX2
with key-way end number: 0.113.XX3



Flange for larger angle of deflection
end number: 0.113.XX5

Cross Units



	Needle bearing version		
	Standard version Needle bearing	Lubrication for version 0.100.3XX Needle bearing	Version suitable for external lubrication Needle bearing
Order number	0.113.010	0.113.011	0.113.012
A mm	106	106	106
B mm	38	38	38
C mm	26,28	26,28	26,28
Snap rings included	mm J 38 x 1,5	J 38 x 1,5	J 38 x 1,5
Weight kg	1,32	1,32	1,33

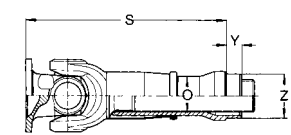
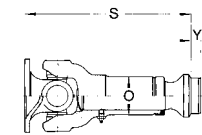
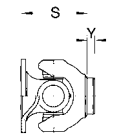
	Roller bearing version	
	Standard version Roller bearing	Version suitable for external lubrication Roller bearing
Order number	0.113.015	0.113.016
A mm	106	106
B mm	38	38
C mm	25,7	25,7
Snap rings included	mm J 38 x 1,5	J 38 x 1,5
Weight kg	1,25	1,34

β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

Fixed joint

Slip joint

Slip joint (sliding sleeve type)

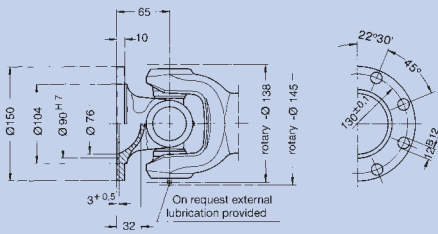


Please indicate compressed length „S“, extension and required type of flange when ordering!

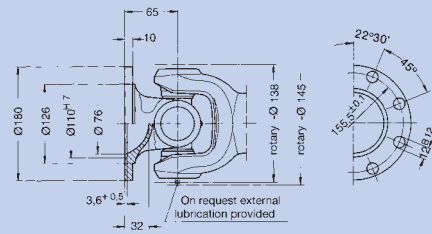
	Needle resp. Roller bearing version											
	without extension				standard extension				larger extension			
Order number	0.113.050	0.113.051	0.113.052	0.113.055	0.113.060	0.113.061	0.113.062	0.113.065	0.113.070	0.113.071	0.113.072	0.113.075
Angle of deflection β °	20	18	20	35	20	18	20	35	20	18	20	35
Weight kg	4,52	5,20	7,63	4,85	8,85	9,53	11,96	9,40	10,24	10,92	13,35	10,57
Flange-Ø mm	120	150	Hub	120	120	150	Hub	120	120	150	Hub	120
S mm	128	128	243	140	318	318	433	343	320	320	435	332
X mm	-	-	-	-	60	60	60	60	130	130	130	130
Y mm	20	20	20	20	22	22	22	22	22	22	22	22
Z mm	62,25	62,25	62,25	62,25	62,25	62,25	62,25	62,25	62,25	62,25	62,25	62,25
Spline dim. DIN 5480	-	-	-	-	50x2x24	50x2x24	50x2x24	50x2x24	50x2x24	50x2x24	50x2x24	50x2x24
Number of flange holes	8	8	-	8	8	8	-	8	8	8	-	8

At utilisation of the nominal torque a verification of the flange connection is necessary.

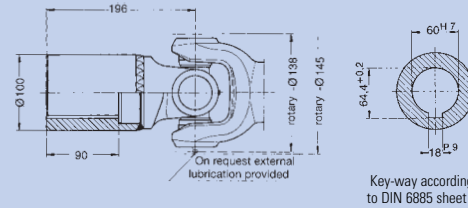
One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



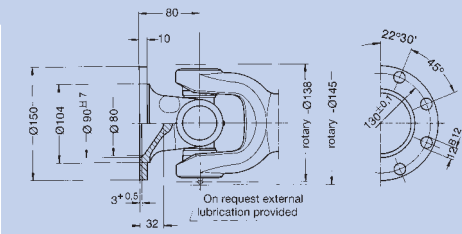
Standard flange
end number: 0.148.XX0



Larger flange
end number: 0.148.XX1



Connecting hub
without key-way end number: 0.148.XX2
with key-way end number: 0.148.XX3



Flange for larger angle of deflection
end number: 0.148.XX5

Cross Units, Roller bearing version

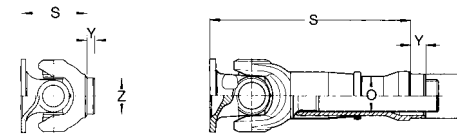


		Standard version Roller bearing	Version suitable for external lubrication Roller bearing
Order number	0.148.015		0.148.016
A	mm	117,5	117,5
B	mm	42	42
C	mm	27,8	27,8
Snap rings included	mm	J 42 x 1,75	J 42 x 1,75
Weight	kg	1,69	1,7

β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

Fixed joint

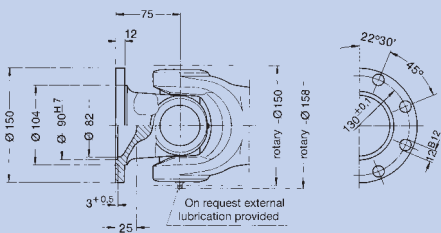
Slip joint (sliding sleeve type)



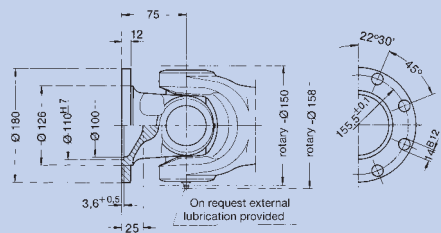
Please indicate compressed length „S“, extension and required type of flange when ordering!

	Roller bearing version							
	without extension				larger extension			
Order number	0.148.050	0.148.051	0.148.052	0.148.055	0.148.070	0.148.071	0.148.072	0.148.075
Angle of deflection β °	20	20	35	35	20	20	20	35
Weight kg	7,06	7,71	11,51	7,72	13,23	13,88	17,68	13,89
Flange-Ø mm	150	180	Hub	120/150	150	180	Hub	120/150
S mm	145	145	276	160	328	328	459	343
X mm	-	-	-	-	110	110	110	110
Y mm	25	25	25	25	25	25	25	25
Z mm	72,25	72,25	72,25	72,25	72,25	72,25	72,25	72,25
Spline dim. DIN 5480 mm	-	-	-	-	55x2,5x20	55x2,5x20	55x2,5x20	55x2,5x20
Number of flange holes	8	8	-	8	8	8	-	8

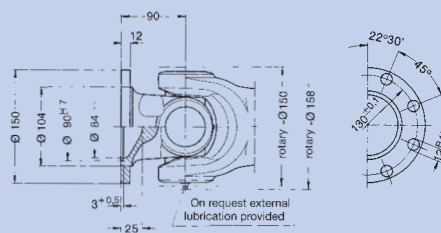
At utilisation of the nominal torque a verification of the flange connection is necessary.



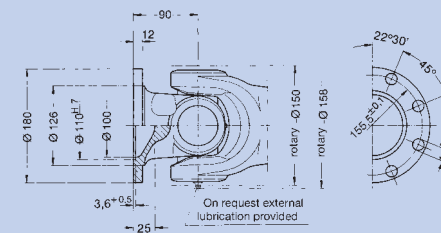
Standard flange
end number: 0.158.XX0



Larger flange
end number: 0.158.XX1



Flange for larger deflection
end number: 0.158.XX5



Larger flange for larger deflection
end number: 0.158.XX6

Cross Units, Roller bearing version

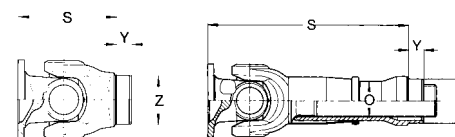


		Standard version Roller bearing		Version suitable for external lubrication Roller bearing
Order number		0.158.015		0.158.016
A	mm	126		126
B	mm	48		48
C	mm	33,15		33,15
Snap rings included	mm	J 48 x 1,75		J 48 x 1,75
Weight	kg	2,28		2,29

β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

Fixed joint

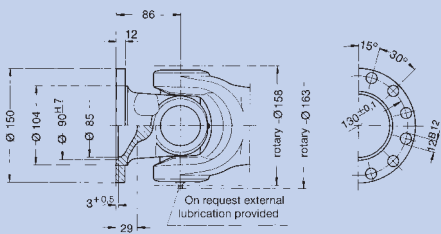
Slip joint (sliding sleeve type)



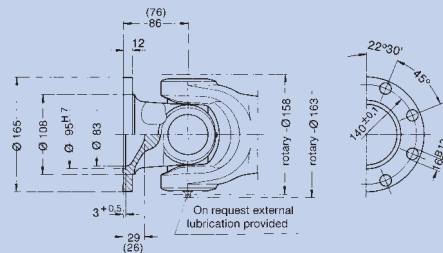
Please indicate compressed length „S“, extension and required type of flange when ordering!

	Roller bearing version							
	without extension				larger extension			
Order number	0.158.050	0.158.051	0.158.055	0.158.056	0.158.070	0.158.071	0.158.075	0.158.076
Angle of deflection β °	20	20	35	35	20	20	35	35
Weight kg	10,12	10,90	10,55	11,36	20,78	21,56	21,21	22,02
Flange-Ø mm	150	180	150	180	150	180	150	180
S mm	185	185	200	200	475	475	490	490
X mm	-	-	-	-	110	110	110	110
Y mm	22	22	22	22	25	25	25	25
Z mm	82,25	82,25	82,25	82,25	82,25	82,25	82,25	82,25
Spline dim. DIN 5480 mm	-	-	-	-	60x2,5x22	60x2,5x22	60x2,5x22	60x2,5x22
Number of flange holes	8	8	8	8	8	8	8	8

At utilisation of the nominal torque a verification of the flange connection is necessary.

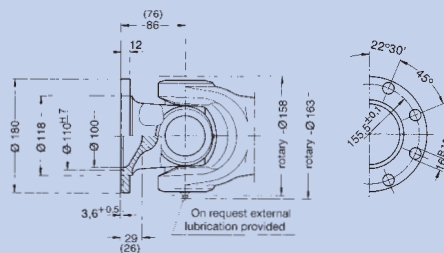


Standard flange
end number: 0.117.XX0



Larger flange (Ø 165 mm)
end number: 0.117.XX1

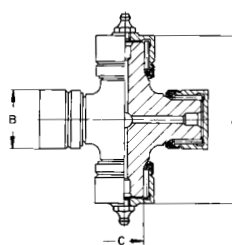
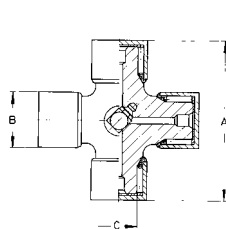
Dimensions in brackets are only valid for short type I



Larger flange (Ø 180 mm)
end number: 0.117.XX1

Dimensions in brackets are only valid for short type I

Cross Units, Roller bearing version

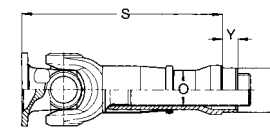
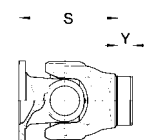


		Standard version Roller bearing	Version suitable for external lubrication Roller bearing
Order number		0.117.015	0.117.016
A	mm	135	135
B	mm	53	53
C	mm	37,34	37,34
Snap rings included	mm	J 53 x 2	J 53 x 2
Weight	kg	3,26	3,28

β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

Fixed joint

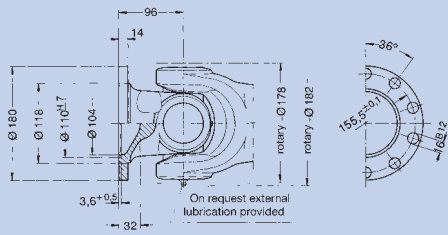
Slip joint (sliding sleeve type)



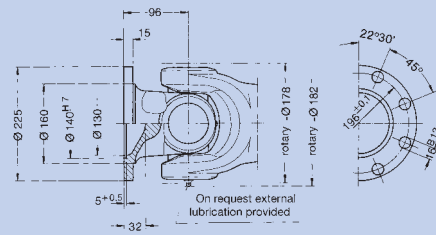
Please indicate compressed length „S“, extension and required type of flange when ordering!

	Roller bearing version							
	without extension				larger extension			
Order number	0.117.050	0.117.051	0.117.051	–	0.117.070	0.117.071	0.117.071	–
Angle of deflection β °	30	30	30	–	30	30	30	–
Weight kg	12,29	12,52	13,06	–	21,99	22,13	22,75	–
Flange-Ø mm	150	165	180	–	150	165	180	–
S mm	184	184	184	–	412/(457)	412/(457)	412/(457)	–
X mm	–	–	–	–	110	110	110	–
Y mm	28	28	28	–	30	30	30	–
Z mm	90,25	90,25	90,25	–	90,25	90,25	90,25	–
Spline dim. DIN 5480 mm	–	–	–	–	65x2,5x24	65x2,5x24	65x2,5x24	–
Number of flange holes	12	8	8	–	12	8	8	–

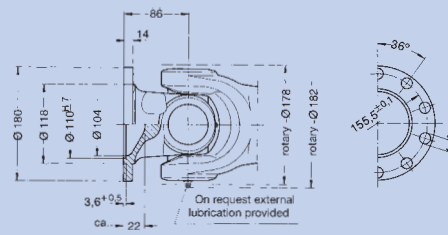
At utilisation of the nominal torque a verification of the flange connection is necessary.



Standard flange
end number: 0.120.XX0

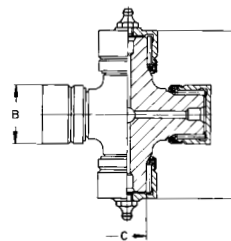
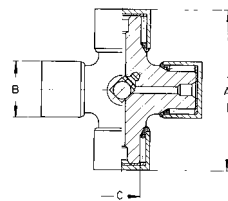


Larger flange
end number: 0.120.XX1



Shorter flange to short type I

Cross Units, Roller bearing version

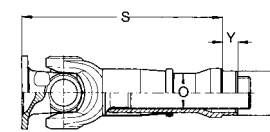
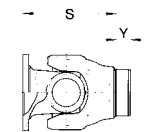


Order number	Standard version Roller bearing			Version suitable for external lubrication Roller bearing		
	mm	mm	mm	mm	mm	mm
A	152	152	152	152	152	152
B	57	57	57	57	57	57
C	40,9	40,9	40,9	40,9	40,9	40,9
Snap rings included	J 57 x 2	J 57 x 2	J 57 x 2	J 57 x 2	J 57 x 2	J 57 x 2
Weight	4,19	4,19	4,19	4,21	4,21	4,21

β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

Fixed joint

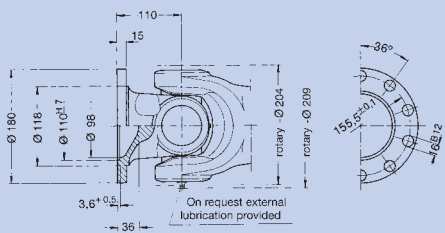
Slip joint (sliding sleeve type)



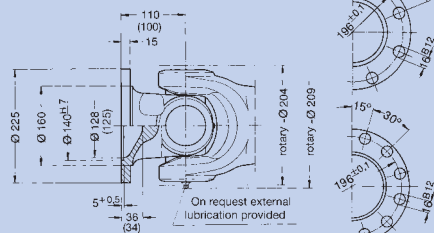
Please indicate compressed length „S“, extension and required type of flange when ordering!

	Roller bearing version							
	without extension				larger extension			
Order number	0.120.050	0.120.051	-	-	0.120.070	0.120.071	-	-
Angle of deflection β °	30	30	-	-	30	30	-	-
Weight kg	16,47	18,54	-	-	30,88	32,95	-	-
Flange-Ø mm	180	225	-	-	180	225	-	-
S mm	201	201	-	-	448/(486)	448/(486)	-	-
X mm	-	-	-	-	110	110	-	-
Y mm	30	30	-	-	30	30	-	-
Z mm	98,25	98,25	-	-	98,25	98,25	-	-
Spline dim. DIN 5480	-	-	-	-	75x2,5x28	75x2,5x28	-	-
Number of flange holes	10	8	-	-	10	8	-	-

At utilisation of the nominal torque a verification of the flange connection is necessary.

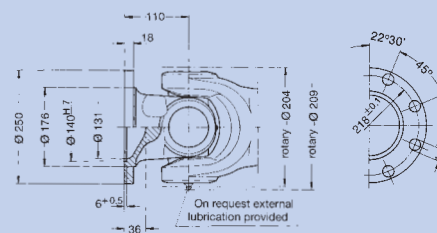


Standard flange
end number: 0.122.XX0



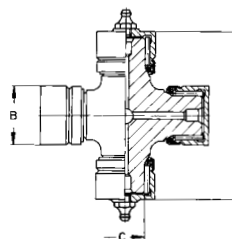
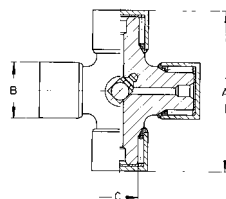
Larger flange (Ø 225 mm)
end number: 0.122.XX1

Dimensions in brackets are only valid for short type I



Larger flange (Ø 250 mm)
end number: 0.122.XX1

Cross Units, Roller bearing version

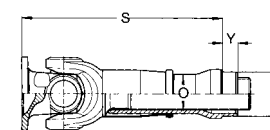
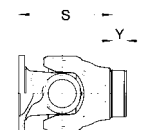


Order number		Standard version Roller bearing		Version suitable for external lubrication Roller bearing	
		0.122.015		0.122.016	
A	mm	172		172	
B	mm	65		65	
C	mm	47,7		47,7	
Snap rings included	mm	J 65 x 2,5		J 65 x 2,5	
Weight	kg	6,15		6,17	

β = Maximum angle of deflection per joint
X = Preferred extension (larger extension available up to approx. 9 x spline o. D.)

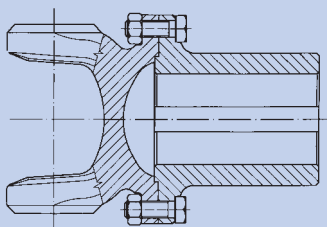
Fixed joint

Slip joint (sliding sleeve type)



Please indicate compressed length „S“, extension and required type of flange when ordering!

	Roller bearing version							
	without extension				larger extension			
Order number	0.122.050	0.122.051	0.122.051	0.122.051	0.122.070	0.122.071	0.122.071	0.122.071
Angle of deflection β °	30	30	30	25	30	30	30	25
Weight kg	22,26	24,70	24,65	26,32	47,95	50,39	50,34	52,00
Flange-Ø mm	180	225	225	250	180	225	225	250
S mm	225	225	225	225	496	496	496	496
X mm	-	-	-	-	140	140	140	140
Y mm	30	30	30	30	28	28	28	28
Z mm	108,25	108,25	108,25	108,25	108,25	108,25	108,25	108,25
Spline dim. DIN 5480 mm	-	-	-	-	90x2,5x34	90x2,5x34	90x2,5x34	90x2,5x34
Number of flange holes	10	8	12	8	10	8	12	8



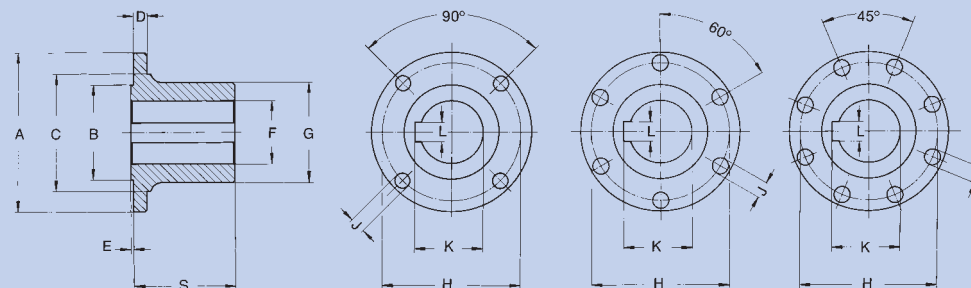
The tightening torque listed in the table are maximum values which are based on the combined stress from tension and torsion to reach 90 % of the minimum yield value. They are only valid for normal surface finishes and when slight lubrication is applied to the thread and contact surfaces of bolt heads and nuts. If threads have received special treatment, tightening torques must be reduced accordingly. To achieve maximum friction, flange faces should be clean, free of lubrication and the surface finish should not exceed 25 µm.

Bolts are normally inserted from the companion flange side and turned diameter „C“ serves as a bolt head lock. Only on certain Universal Joint sizes can the bolts be inserted from the Universal Joint side without any reworking.

When encountering distinct reversing operation, it is advisable to reinforce the bolts with adapter sleeves or to employ serrated flanges.

The indicated numbers per Kit refer to a drive shaft having 2 flanges.

One keyway is not enough to transmit the max. torque. In such case a second keyway or an internal spline is recommended.



Flange bolt Kit

Order number	0.105.192.001	0.106.192.001	0.107.192.001	0.109.192.001	0.110.192.001	0.112.192.001	0.113.192.001	0.148.192.001	0.158.192.001	0.117.192.001
for joint size	105	105/106	106/107	107/109	109/110	110/112	112/113	148	158	117
Flange-Ø A	58	65	75	90	100	120	120/150	150/180	150/180	150
Hexagon head bolts DIN EN 24014-10.9	M5 x 14	M6 x 18	M6 x 18	M8 x 24	M8 x 24	M8 x 26	M10 x 30	M12 x 35	M12 x 40	M12 x 40
Number per Kit	8	8	12	8	12	16	16	16	16	24
Hexagon head bolts DIN EN ISO 7042-10	M5	M6	M6	M8	M8	M8	M10	M12	M12	M12
Number per Kit	8	8	12	8	12	16	16	16	16	24
Tightening torque	Nm	8,5	14	14	35	35	35	69	120	120

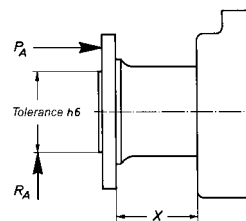
Order number	0.117.192.002	0.117.192.003	0.120.192.001	0.120.192.002	0.122.192.002	0.122.192.003
for joint size	117	158/117	120/122	120/122	120/122	122
Flange-Ø A	165/180	165/180	180	180/225	225	250
Hexagon head bolts DIN EN 24014-10.9	M16 x 46	M14 x 42	M16 x 50	M16 x 50	M16 x 50	M18 x 60
Number per Kit	16	16	20	16	24	16
Hexagon head bolts DIN EN ISO 7042-10	M16	M14	M16	M16	M16	M18
Number per Kit	16	16	20	16	24	16
Tightening torque	Nm	295	190	295	295	450

Flange with cross serration

Order number	0.112.192.003	0.158.192.005	0.117.192.008
for joint size	112/113/148	158/117	117/120/122
Flange-Ø A	120	150	180
Hexagon head bolts DIN EN 24014-10.9	M10 x 40	M12 x 40	M14 x 45
Number per Kit	8	8	8
Hexagon head bolts DIN EN ISO 7042-10	M10	M12	M14
Number per Kit	8	8	8
Tightening torque	Nm	46	79

Companion Flanges

Order number	1.105.240	1.106.240	1.107.240	1.109.240	1.110.240	1.112.240	1.113.240	1.148.240	1.158.240	1.117.240	1.120.240	1.122.240
for joint size	0.105	0.106/0.105	0.107/0.106	0.109/0.107	0.110/0.109	0.112/0.110	0.113	0.148	0.158	0.117	0.120	0.122
A	mm	58	65	75	90	100	120	120	150	150	180	225
B _{H6}	mm	30	35	42	47	57	75	75	90	90	110	140
C _{-0.2}	mm	38,8	41,8	51,8	61,2	70,7	88,2	84,1	110,6	110,6	131	171,5
D	mm	4	5	6	8	8	9	10	10	12	14	15
E _{-0.2}	mm	1,4	1,6	1,9	2,3	2,3	2,3	2,3	2,8	2,8	2,8	4,5
F ^{H7}	mm	20	25	30	35	40	45	55	60	65	80	110
G	mm	32	40	45	52	60	80	80	95	95	118	165
H _{+0.1}	mm	47	52	62	74,5	84	101,5	101,5	130	130	155,5	196
J ^{B12}	mm	5	6	6	8	8	8	10	12	12	16	16
K	mm	22,8	28,3	33,3	38,3	43,3	48,8	59,3	64,4	69,4	85,4	116,4
L ^{P9}	mm	6	8	8	10	12	14	16	18	18	22	28
S	mm	30	40	48	55	62	70	85	100	115	125	170
Number of flange holes		4	4	6	4	6	8	8	8	8	8	8

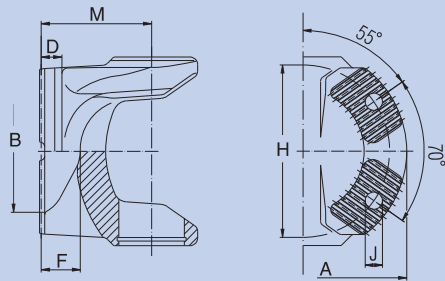


When companion flanges are produced in-house, the following should be observed:

1. Flange surface finish should not exceed 25 µm.
2. The configuration of the companion flanges must be such, that distance „X“ is at least as long as the bolt, included the head.
3. To operate in a trouble-free manner, there must be a good concentricity between the companion flanges and Universal Joint flanges. On high speed shafts face P_A run out and concentricity deviation R_A should not exceed 0,04 mm.

Md_{Nom} 3350–26750 Nm

Md_{Lim} 4350–35000 Nm



β = Maximum angle of deflection per joint
Cross serration according DIN ISO 8667

Flanges, Cross-serrated

Order number		1.112.302	1.113.302	1.148.302	1.158.302	1.117.302	1.117.302	1.120.302	1.122.302
Md_{Nom}	Nm	3350	4100	5500	8200	10000	10000	16850	26750
Angle of deflection β	°	20	20	30	20	30	30	30	30
A approx.	mm	122	120	120	150	150	180	180	180
B	mm	72	72	72	92	93	106	106	106
D \pm 1	mm	13	13	13	15,5	15,5	18	18	19
F approx.	mm	26	37	24	28	33	33	34	34
H \pm 0.1	mm	100	100	100	130	130	150	150	150
J	mm	11	11	11	13	13	15	15	15
M	mm	60	70	70	75	90	90	96	100
Weight	kg	1,83	2,10	2,37	3,36	4,40	5,32	6,36	7,36