

DETAN TENSION ROD SYSTEM

Carbon Steel System DETAN-S460

System components, material/finish

	Tension rod	Tension rod	Fork	Fork	Couplers, locking nuts	Anchor disc
Rod diameter* D [mm]	6 - 12	16 - 95	6 - 12	16 - 95	6 - 95	6 - 95
Material	S 355	S460N	Cast iron GGG 40	Cast steel GS 20Mn5v	S 355	S 355
Finish	black		dacrometised ①		dacrometised ①	hot-dip galv
	hot dip galvanised					

Notes ① An inorganic coating approximately equivalent to a hot dip galvanising.

System load capacity

Rod diameter* D [mm]	6	8	10	12	16	20	24	27	30	36	42	48	52	56	60	64	76	85	95
Load capacity [kN]	② 6.5	11.5	18.5	27	65	102	147	192	234	342	468	616	735	848	987	1119	1626	2069	2623

Notes ② Design load acc. to DIN 18800 (Nov. 1990), if for the combined loads a partial safety factor γ_F has been calculated. The partial safety factor γ_M has been applied in the calculation. See also Type Approvals DETAN-S460 (for system sizes 16 to 95 mm) and DETAN-S (for system sizes 6 to 12 mm).

Minimum system length [mm]

Rod diameter* D [mm]	6	8	10	12	16	20	24	27	30	36	42	48	52	56	60	64	76	85	95
Carbon steel	⑤ 139	155	189	237	267	327	384	416	446	513	586	666	713	761	828	886	1042	1152	1272

Maximum system length with one rod [mm] ④

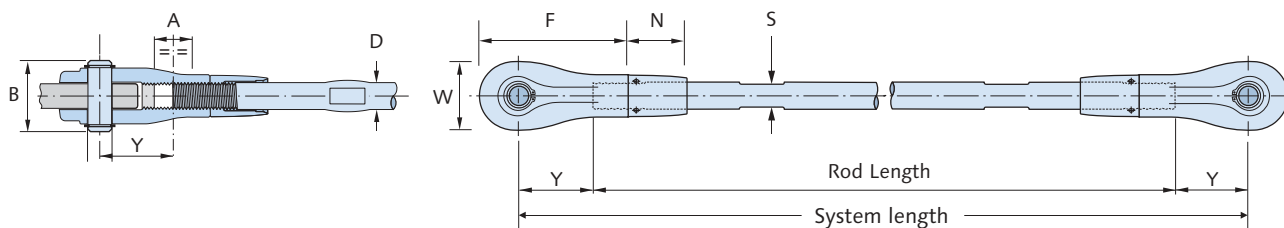
Rod diameter* D [mm]	6	8	10	12	16	20	24	27	30	36	42	48	52	56	60	64	76	85	95
Carbon steel	⑤ 3044	6051	6060	6073	12085	12107	12128	12140	12148	12179	12220	12264	12277	12290	12324	15356	15432	15482	15532

Maximum rod length [mm]

Carbon steel	⑤ 3000	← 6000 →	← 12000 →	← 15000 →
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④ Greater system lengths can be achieved using more than one rod in combination with DETAN couplers.

⑤ Size D = 6 mm only available in black (mill finish - code wb).



System dimensions [mm]

Rod Diameter*	D	6	8	10	12	16	20	24	27	30	36	42	48	52	56	60	64	76	85	95
Fork length	F	42	50	60	73	89	110	133	147	160	192	225	265	285	305	335	380	460	520	580
Fork width	W	17	21	26	31	41	51	61	69	75	90	105	119	125	137	146	176	196	216	236
Pin Length	B	18	22	27	32	44	52	60	65	72	84	97	111	119	130	139	157	180	202	229
Adjustment	A	9	9	10	13	15	16	22	25	25	28	30	35	40	45	50	60	78	90	120
Spanner size	S	5	6	8	10	14	18	21	24	27	32	36	41	46	50	55	55	65	75	85
Pin to bar end	Y	22	25.5	30	36.5	42.5	53.5	64	70	74	89.5	110	132	138.5	145	162	178	216	241	266
Locking nut length	N	17.5	20.0	24.5	37.0	41.0	50.0	58.0	63.0	64.0	72.0	83.0	91.0	98.0	105.0	112.0	120	148	165	205

* The system designation is the rod dia.

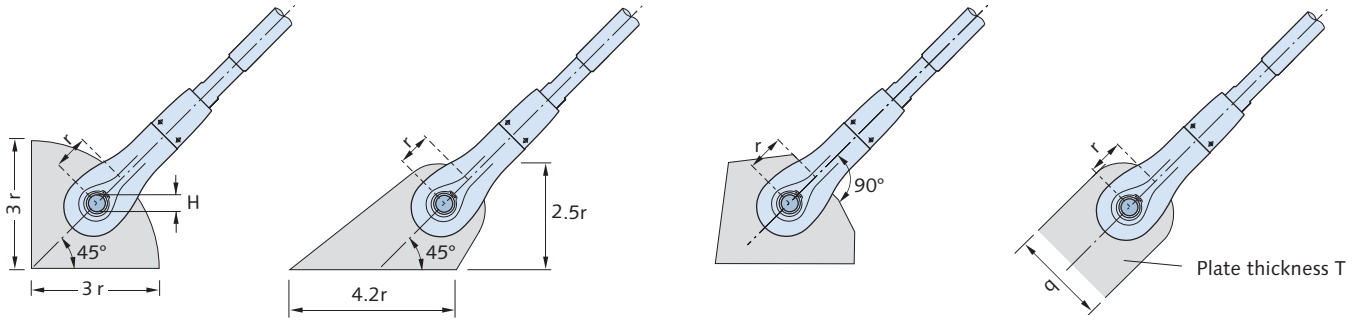
Note: dia 52-95 are under development, please check current availability with Halfen Ltd

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Connecting plates

Connecting plates should be designed to suit each application. The critical dimensions are provided in the table and in the diagrams below. For guidance on specific applications please contact our technical staff.

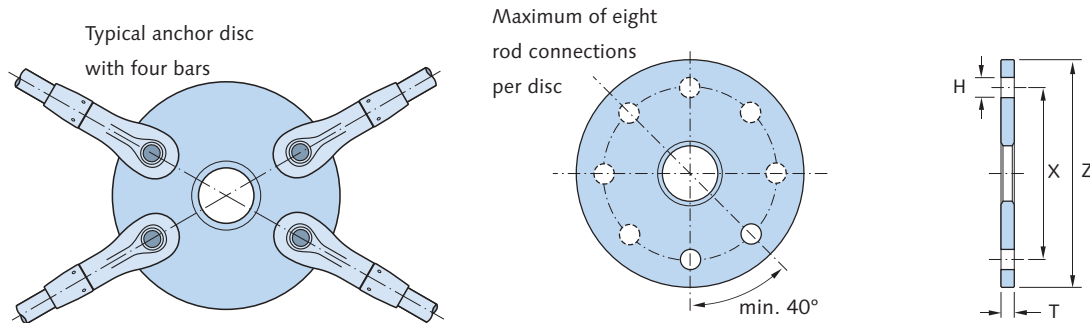


Dimensions [mm]

Rod diameter*	D	6	8	10	12	16	20	24	27	30	36	42	48	52	56	60	64	76	85	95
Plate thickness	T	5	7	8	10	15	18	20	22	25	30	35	40	45	50	55	55	65	75	85
Hole diameter	H	6.5	7.5	9.5	11.5	15.5	19.5	23.5	26.5	29.5	33.5	41	47	49	53	57	66	76	86	96
Position of hole	r	9	12	15	18	24	29	35	39	43	51	60	70	76	83	88	107	129	149	159
Minimum width	q	17	21	26	31	41	51	61	69	75	90	105	119	125	136	146	176	196	216	236

Material specification: steel strength grade S355

Anchor Discs

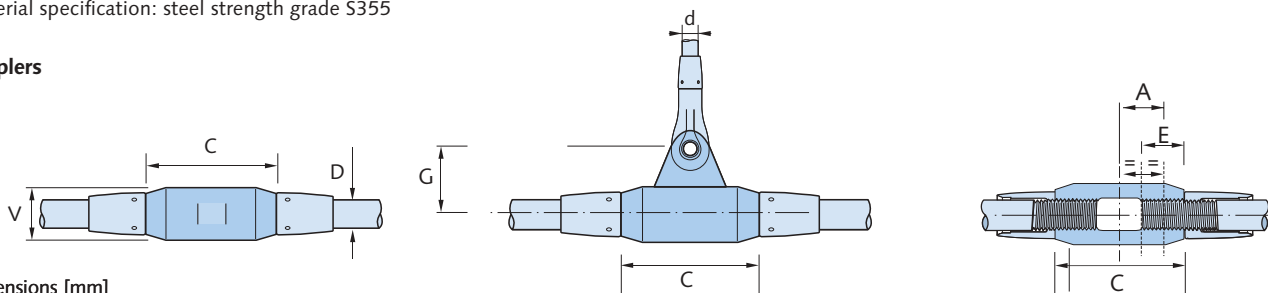


Dimensions [mm]

Rod diameter*	D	6	8	10	12	16	20	24	27	30	36	42	48	52	56	60	64	76	85	95
Effective diameter	X	55	75	90	110	140	180	210	240	260	310	360	420	450	490	520	596	702	777	832
Disc diameter	Z	73	99	120	146	186	238	280	318	346	412	480	558	600	652	692	810	960	1075	1150

Material specification: steel strength grade S355

Couplers



Dimensions [mm]

Rod diameter*	D	6	8	10	12	16	20	24	27	30	36	42	48	52	56	60	64	76	85	95
Coupler length	C	34	40	40	50	62	78	94	104	120	140	158	180	195	210	245	270	328	370	450
Coupler diameter	V	12	15	20	22	28	35	42	47	53	64	75	87	93	98	104	135	155	180	195
Screw-in depth	E	10.5	12.5	15	18.5	22.5	27	34	37.5	42.5	51	55	62.5	70.5	77.5	85	95	115	130	155
Adjustment	A	9	9	10	13	15	16	22	25	25	28	30	35	40	45	50	60	78	90	120
Hanger diameter	d	-	-	-	6	6	8	8	10	10	10	10	12	12	12	12	12	12	16	16
Hole position	G	-	-	-	27.5	33	37	44	50.5	57.5	72	86.5	98.5	111.5	124.5	137	130	140	150	157.5

Material specification: steel strength grade S355

* The system designation is the rod dia.

Note: Adjustment (A) means each coupler or fork end gives $\pm \frac{A}{2}$