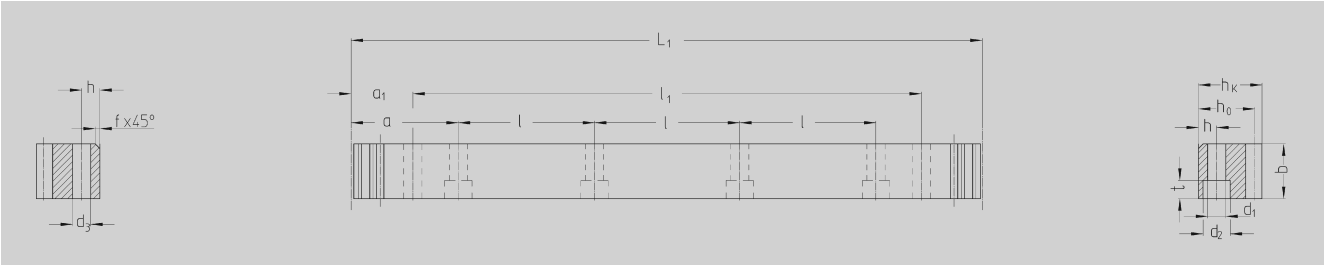
Quality 6



Order Code	Module	L_1	N° of Teeth	b	h_k	h_0	f	a	l	N° of Holes	h	d_1	d_2	t	a_1	l_1	d_3	kg
28 20 025 [1]	2	251.3	40	24	24	22.0	2	62.8	125.66	2	8	7	11	7	31.3	188.7	5.7	1.00
28 21 025	2	251.3	40	24	24	22.0	2				without Mounting Holes							1.00
28 20 050 [1]	2	502.7	80	24	24	22.0	2	62.8	125.66	4	8	7	11	7	31.3	440.1	5.7	2.10
28 21 050	2	502.7	80	24	24	22.0	2				without Mounting Holes							2.10
28 20 100	2	1005.3	160	24	24	22.0	2	62.8	125.66	8	8	7	11	7	31.3	942.7	5.7	4.20
28 21 100	2	1005.3	160	24	24	22.0	2				without Mounting Holes							4.20
28 30 025 [1]	3	254.5	27	29	29	26.0	2	63.6	127.23	2	9	10	15	9	34.4	185.7	7.7	1.50
28 31 025	3	254.5	27	29	29	26.0	2				without Mounting Holes							1.50
28 30 050 [1]	3	508.9	54	29	29	26.0	2	63.6	127.23	4	9	10	15	9	34.4	440.1	7.7	3.00
28 31 050	3	508.9	54	29	29	26.0	2				without Mounting Holes							3.00
28 30 100	3	1017.9	108	29	29	26.0	2	63.6	127.23	8	9	10	15	9	34.4	949.1	7.7	6.00
28 31 100	3	1017.9	108	29	29	26.0	2				without Mounting Holes							6.00
28 40 025 [1]	4	251.3	20	39	39	35.0	2	62.8	125.66	2	12	10	15	9	37.5	176.3	7.7	2.60
28 41 025	4	251.3	20	39	39	35.0	2				without Mounting Holes							2.60
28 40 050 [1]	4	502.7	40	39	39	35.0	2	62.8	125.66	4	12	10	15	9	37.5	427.7	7.7	5.30
28 41 050	4	502.7	40	39	39	35.0	2				without Mounting Holes							5.30
28 40 100 [1]	4	1005.3	80	39	39	35.0	2	62.8	125.66	8	12	10	15	9	37.5	930.3	7.7	10.50
28 41 100	4	1005.3	80	39	39	35.0	2				without Mounting Holes							10.50
28 42 100	4	1005.3	80	39	39	35.0	2	62.8	125.66	8	12	14	20	13	37.5	930.3	11.7	10.50
28 42 150	4	1507.9	120	39	39	35.0	2	62.8	125.66	12	12	14	20	13	37.5	1432.9	11.7	16.00
28 42 200	4	2010.62	160	39	39	35.0	2	62.8	125.66	16	12	14	20	13	37.5	1935.6	11.7	21.00

1) The screw joint limits the feed force.

Total pitch error:

GT_f/1000 ≤ 0.036 mm
GT_f/1500 ≤ 0.043 mm (≤ 0.029/1000 mm)
GT_f/2000 ≤ 0.047 mm (≤ 0.024/1000 mm)

- Teeth induction-hardened and ground
- Material 16MnCr5, carburized
- Ground on all sides after hardening

Mounting racks, see page ZF-2.

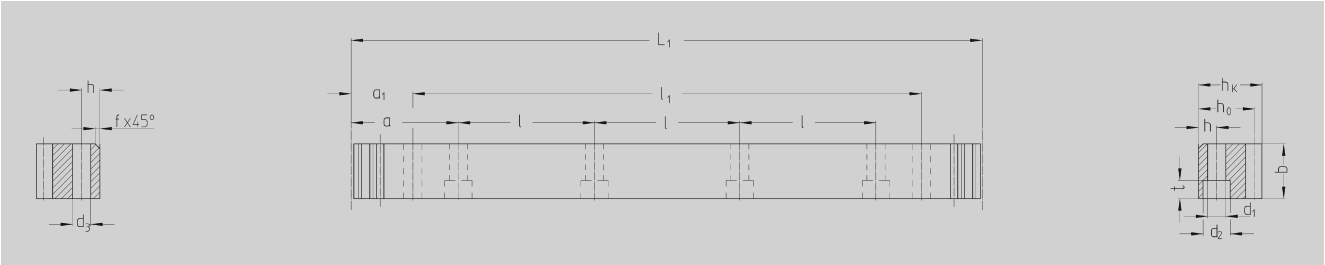
To achieve precision rack joints, we recommend our patented rack assembly kit, see page ZF-4.

For lubrication of rack & pinions we recommend our automatic lubrication systems, see page ZE-1.

For the calculation and selection of the rack & pinion drive, see page ZD-1.

Screws for rack mounting, see page ZF-3.

Quality 6



Order Code	Module	L_1	N° of Teeth	b	h_k	h_0	f	a	l	N° of Holes	h	d_1	d_2	t	a_1	l_1	d_3	kg
28 20 105	2	1005.30	160	24	24	22.0	2	62.8	125.66	8	8	7	11	7	31.3	942.70	5.7	4.20
28 21 105	2	1005.30	160	24	24	22.0	2			without Mounting Holes								4.20
28 20 205	2	2010.62	320	24	24	22.0	2	62.8	125.66	16	8	7	11	7	31.3	1948.00	5.7	8.40
28 21 205	2	2010.62	320	24	24	22.0	2			without Mounting Holes								8.40
28 30 105	3	1017.90	108	29	29	26.0	2	63.6	127.23	8	9	10	15	9	34.4	949.10	7.7	6.00
28 31 105	3	1017.90	108	29	29	26.0	2			without Mounting Holes								6.00
28 30 205	3	2035.75	216	29	29	26.0	2	63.6	127.23	16	9	10	15	9	34.4	1967.00	7.7	12.00
28 31 205	3	2035.75	216	29	29	26.0	2			without Mounting Holes								12.00
28 40 105[1]	4	1005.30	80	39	39	35.0	2	62.8	125.66	8	12	10	15	9	37.5	930.30	7.7	10.50
28 41 105	4	1005.30	80	39	39	35.0	2			without Mounting Holes								10.50
28 40 205	4	2010.62	160	39	39	35.0	2	62.8	125.66	16	12	10	15	9	37.5	1935.60	7.7	21.00
28 41 205	4	2010.62	160	39	39	35.0	2			without Mounting Holes								21.00
28 42 105	4	1005.30	80	39	39	35.0	2	62.8	125.66	8	12	14	20	13	37.5	930.3	11.7	10.50
28 42 155	4	1507.90	120	39	39	35.0	2	62.8	125.66	12	12	14	20	13	37.5	1432.9	11.7	16.00
28 42 205	4	2010.62	160	39	39	35.0	2	62.8	125.66	16	12	14	20	13	37.5	1935.6	11.7	21.00
28 50 055[1]	5	502.60	32	49	39	34	2.5	62.8	125.66	4	12	14	20	13	30.1	442.40	11.7	6.70
28 51 055	5	502.60	32	49	39	34	2.5			without Mounting Holes								6.70
28 50 105	5	1005.30	64	49	39	34	2.5	62.8	125.66	8	12	14	20	13	30.1	945.00	11.7	13.40
28 51 105	5	1005.30	64	49	39	34	2.5			without Mounting Holes								13.40
28 50 155	5	1507.96	96	49	39	34	2.5	62.8	125.66	12	12	14	20	13	30.1	1447.70	11.7	20.10
28 51 155	5	1507.96	96	49	39	34	2.5			without Mounting Holes								20.10
28 50 205	5	2010.62	128	49	39	34	2.5	62.8	125.66	16	12	14	20	13	30.1	1950.40	11.7	26.80
28 51 205	5	2010.62	128	49	39	34	2.5			without Mounting Holes								26.80
28 60 055[1]	6	508.90	27	59	49	43	2.5	63.6	127.23	4	16	18	26	17	31.4	446.10	15.7	10.40
28 61 055	6	508.90	27	59	49	43	2.5			without Mounting Holes								10.40
28 60 105	6	1017.88	54	59	49	43	2.5	63.6	127.23	8	16	18	26	17	31.4	955.00	15.7	20.20
28 61 105	6	1017.88	54	59	49	43	2.5			without Mounting Holes								20.20
28 60 155	6	1526.81	81	59	49	43	2.5	63.6	127.23	12	16	18	26	17	31.4	1464.00	15.7	30.30
28 61 155	6	1526.81	81	59	49	43	2.5			without Mounting Holes								30.30
28 60 205	6	2035.75	108	59	49	43	2.5	63.6	127.23	16	16	18	26	17	31.4	1973.00	15.7	40.40
28 61 205	6	2035.75	108	59	49	43	2.5			without Mounting Holes								40.40
28 80 055[1]	8	502.65	20	79	79	71	2.5	62.8	125.66	4	25	22	33	21	26.6	449.45	19.7	22.38
28 81 055	8	502.65	20	79	79	71	2.5			without Mounting Holes								22.38
28 80 105	8	1005.30	40	79	79	71	2.5	62.8	125.66	8	25	22	33	21	26.6	952.00	19.7	44.76
28 81 105	8	1005.30	40	79	79	71	2.5			without Mounting Holes								44.76
28 80 205	8	2010.61	80	79	79	71	2.5	62.8	125.66	16	25	22	33	21	26.6	1957.30	19.7	89.50
28 81 205	8	2010.61	80	79	79	71	2.5			without Mounting Holes								89.50
28 10 105	10	1005.30	32	99	99	89	2.5	62.83	125.66	8	32	33	48	32	125.66	753.96	19.7	68.72
28 11 105	10	1005.30	32	99	99	89	2.5			without Mounting Holes								68.72
28 12 105	12	1017.90	27	120	120	108	2.5	63.60	127.23	8	40	39	58	38	127.23	763.40	19.7	111.00
28 13 105	12	1017.90	27	120	120	108	2.5			without Mounting Holes								20.00

1) The screw joint limits the feed force.

Total pitch error: $GT_f/1000 \leq 0.036$ mm, $GT_f/1500 \leq 0.043$ mm ($\leq 0.029/1000$ mm)
$GT_f/2000 \leq 0.047$ mm ($\leq 0.024/1000$ mm)

- Teeth induction-hardened and ground
- Material C45
- Ground on all sides after hardening

Mounting racks, see page ZF-2.

Further information see page ZB–4.