

Worm Gear Reducers

Housing Aluminum

SPECIFICATION

Types

- Type **A**: One-side drive
- Type **B**: Continuous drive

Housing

Aluminum

- Sealed to prevent dust entry
- Anodized, natural color **AN**

Worm screw

Steel

Worm wheel

Brass

Ball bearing

Steel

Sealed (sealing disks 2RS)

Operating temperature -20 °C to +60 °C

INFORMATION

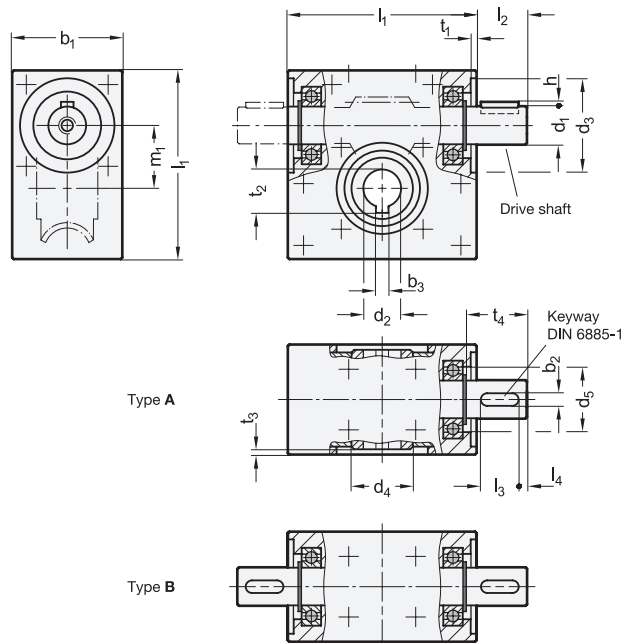
Worm gear reducers GN 3975 can transmit high torque despite their very compact dimensions. They can readily be used for a multitude of applications, such as incline adjustments or to change the direction of shaft rotation.

The numerous fastening holes allow for simple mounting in any orientation or position. The parallel keys can take any angular positions.

Depending on the gear ratio, there may be no static self-braking between the worm screw and worm wheel, meaning that the worm wheel can be turned out of a resting state by a torque coming from the output end.

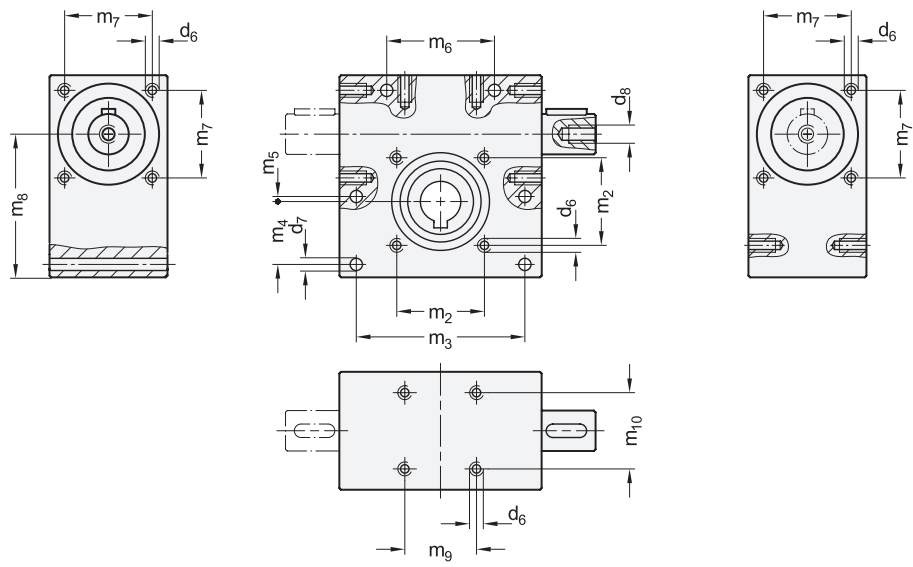
TECHNICAL INFORMATION

- Application example (see page)
- Keyways DIN 6885-1 (see page A16)
- ISO-Fundamental Tolerances (see page A21)



Type A

Type B



GN 3975-A

Description	m1	d1 j6	Gear ratio i	b1	b2	b3 JS9	d2 H7	d3	d4	d5	d6*	d7	d8*	h	l1	l2	l3	l4	m2	m3	m4	m5	m6	m7	m8	m9	m10	t1	t2	t3	t4	
GN 3975-20-A-12-5-AN	20	12	5	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	434
GN 3975-20-A-12-13-AN	20	12	13	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	422
GN 3975-20-A-12-15-AN	20	12	15	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	425
GN 3975-20-A-12-18-AN	20	12	18	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	426
GN 3975-20-A-12-23-AN	20	12	23	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	428
GN 3975-20-A-12-30-AN	20	12	30	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	438
GN 3975-20-A-12-40-AN	20	12	40	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	426
GN 3975-20-A-12-65-AN	20	12	65	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	432
GN 3975-30-A-12-5-AN	30	12	5	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	867
GN 3975-30-A-12-10-AN	30	12	10	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	882
GN 3975-30-A-12-17-AN	30	12	17	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	863
GN 3975-30-A-12-20-AN	30	12	20	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	861
GN 3975-30-A-12-25-AN	30	12	25	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	869
GN 3975-30-A-12-34-AN	30	12	34	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	865
GN 3975-30-A-12-45-AN	30	12	45	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	870
GN 3975-30-A-12-64-AN	30	12	64	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	881

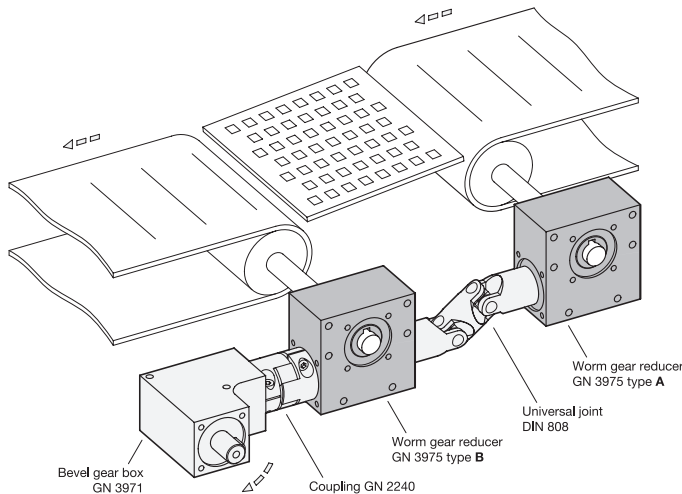
GN 3975-B

Description	m1		d1 j6	Gear ratio			b1	b2	b3 JS9	d2 H7	d3	d4	d5	d6*	d7	d8*	h	l1	l2	l3	l4	m2	m3	m4	m5	m6	m7	m8	m9	m10	t1	t2	t3	t4	
				i																															
GN 3975-20-B-12-5-AN	20	12	5	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	434			
GN 3975-20-B-12-13-AN	20	12	13	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	432			
GN 3975-20-B-12-15-AN	20	12	15	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	440			
GN 3975-20-B-12-18-AN	20	12	18	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	411			
GN 3975-20-B-12-23-AN	20	12	23	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	414			
GN 3975-20-B-12-30-AN	20	12	30	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	452			
GN 3975-20-B-12-40-AN	20	12	40	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	440			
GN 3975-20-B-12-65-AN	20	12	65	35	4	4	12	30	20	274	M4	4.2	M5	1.5	60	16	12	3	26	50	17.5	1.5	31	26	42.5	22.5	26	2	13.8	1.6	18.3	447			
GN 3975-30-B-12-5-AN	30	12	5	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	883			
GN 3975-30-B-12-10-AN	30	12	10	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	903			
GN 3975-30-B-12-17-AN	30	12	17	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	880			
GN 3975-30-B-12-20-AN	30	12	20	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	877			
GN 3975-30-B-12-25-AN	30	12	25	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	885			
GN 3975-30-B-12-34-AN	30	12	34	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	881			
GN 3975-30-B-12-45-AN	30	12	45	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	885			
GN 3975-30-B-12-64-AN	30	12	64	40	4	5	14	30	25	274	M5	5.5	M5	1.5	80	16	12	3	40	60	20	10	15	26	57.5	30	30	4	16.3	2	20.5	897			

* Usable thread depth: min. 1.6 x d6 / d8



Application example



Mechanical Features

Circumferential backlash at the drive shaft	1° ± 0.5°
Shaft direction of rotation	Any
Worm screw direction	Left
Life expectancy	1.000 hours under full load at a rotational speed of 500 rpm, assuming the gear box is operating for 20% of every 5 minutes (guide value) (1 minute of operation + 4 minutes break) at an ambient temperature of 20 °C
Maintenance	Permanent lubrication with grease, maintenance-free

m1	Gear ratio	Max. input torque in Nm*			Max. output torque in Nm*			Input side		Output side		Efficiency in %	Self-braking
		at 100 min ⁻¹	at 500 min ⁻¹	at 1000 min ⁻¹	at 100 min ⁻¹	at 500 min ⁻¹	at 1000 min ⁻¹	Max. radial force in N**	Max. axial force in N***	Max. radial force in N**	Max. axial force in N***		
20	5	2.9	2.3	1.7	10	8	6	200	200	500	500	70	-
20	13	2.1	1.8	1.5	15	13	11	200	200	500	500	56	-
20	15	1.5	1.3	1	12	10	8	250	250	500	500	52	-
20	18	1.1	0.9	0.7	11	9	7	250	250	500	500	55	-
20	23	0.9	0.7	0.5	10	8	6	250	250	500	500	50	-
20	30	0.6	0.5	0.4	8.5	7	5.5	350	350	500	500	45	-
20	40	0.35	0.31	0.31	5.5	4.8	4	400	400	500	500	39	x
20	65	0.24	0.2	0.2	4.5	3.8	3	500	500	500	500	29	x
30	5	5.4	4.9	4.3	19	17	15	400	300	800	800	70	-
30	10	3.4	3.1	2.8	20	18	16	400	300	800	800	58	-
30	17	2.2	1.9	1.8	17	15	14	400	400	800	800	46	-
30	20	1.7	1.6	1.4	15	13.5	12	800	400	800	800	43	-
30	25	1.3	1.2	1.1	13.5	12	11	800	800	800	800	41	-
30	34	1.2	1.1	1	12	11	10	600	800	800	800	29	-
30	45	0.9	0.8	0.8	10.5	9.5	9	700	600	800	800	25	-
30	64	0.5	0.4	0.3	8.5	7.5	6	700	600	800	800	27	x

* Input side speed
 ** At axial force = 0
 *** At radial force = 0

Assembly Instructions

Do not exert any forces onto the housing or into the bearings during assembly. Use of the threaded holes d_8 in the shaft is recommended. The use of a corresponding coupling is recommended to compensate for manufacturing-related shaft offsets and runout tolerances as well as for damping vibrations and shocks.