UGD

UGD

Dimensions (mm)	55 x 65.6
Height (mm)	13
Max. torque (cNm)	32
Ratios	4 1/6 ... 6.048.000
Internal slipping clutch	optional for ratios ≥ 33 1/3
Standard shaft (mm)	∅ 4 x 10
Weight (g)	35
Motor combination	Series UC, UB and UD; Series UF without UFR3/4 and UFB3/4



Standard Data

Mounting	any position
Axial thrust F_A	10 N
Lateral force F_R	50 N
Slipping clutches/free wheel	single-way clockwise/counter clockwise function and two way
Slipping-/free wheel torque	1 ... 40 cNm
Output shafts	∅ 4 x 10, other on request
Climatic class	wide-spread according to DIN IEC 60721-2-1
Ambient temperature operation	°C -15 ... +55
Ambient temperature storage	°C -40 ... +80

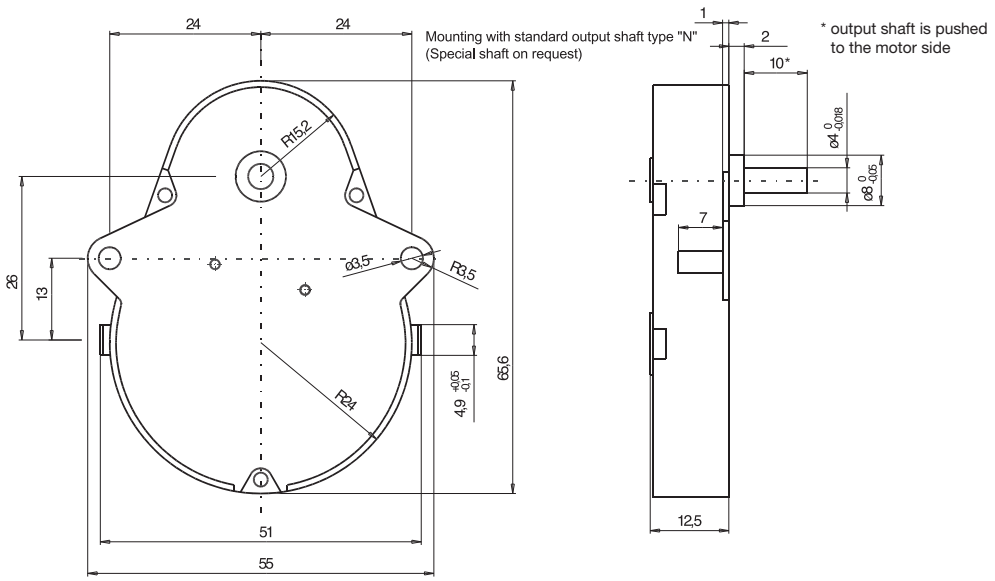
Ratios													
	4 1/6	5	8 1/3	10	12 1/2	15	16 2/3	20 5/6	25	30	33 1/3	40	41 2/3
	45	50	60	62 1/2	83 1/3	100	120	125	150	166 2/3	200	250	300
	375	500	600	625	750	900	1000	1200	1500	1800	2000	2400	2500
	3000	3600	3750	4500	5000	6000	7500	9000	10000	15000	18000	21600	22500
	30000	36000	45000	54000	60000	72000	90000	108000	112500	120000	180000	216000	225000
	270000	300000	360000	432000	450000	720000	864000	1800000	5040000	6048000			

Order Reference

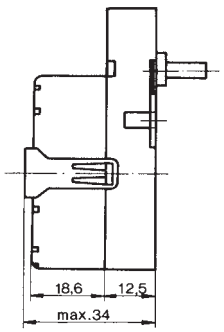
Type	Gearbox				UGD	100	N	5cNm	N
Ratio		100							
Slipping clutch	N	Without slipping clutch							
	ER	One-way slipping clutch, clockwise							
	EL	One-way slipping clutch, counter clockwise							
	Z	Two-way slipping clutch							
Slipping torque		5 cNm (for instance)							
Shaft end	N	∅ 4 x 10, other on request							

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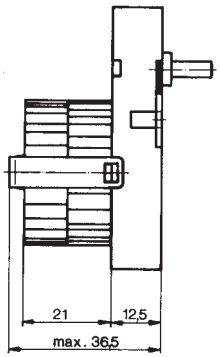
Dimensions



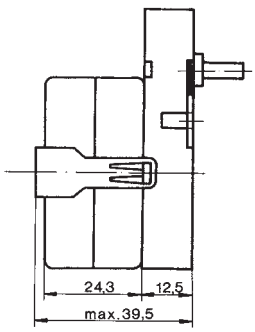
UDS 1..D



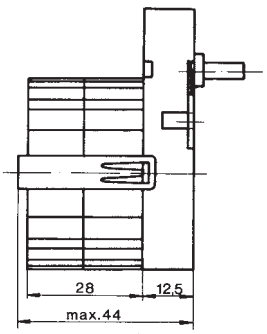
UBR 1/UBR 2..D



UDR 1..D



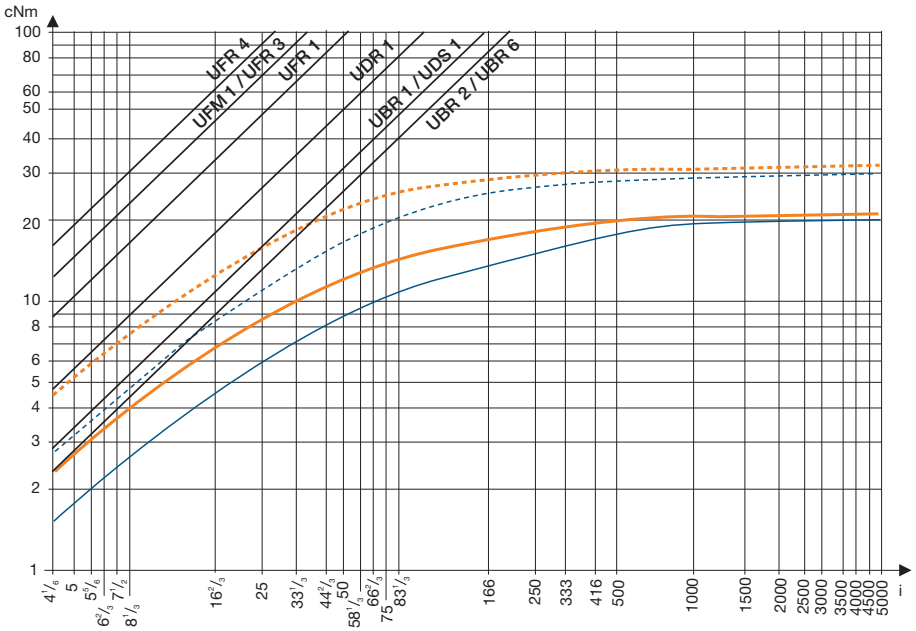
UFM 1/UFU 1/UFR 1..D



Slipping clutches

	max. torque available at output shaft (cNm)	free wheel-/clutch torque (cNm)
Roller-type free wheel	32	1
Single-way slipping clutches	32	4 ... 25 counter clockwise or clockwise function
Two-way slipping clutches	3 ... 15	4 ... 40

Torque / ratio / life graph



motor torque with consideration for gear efficiency

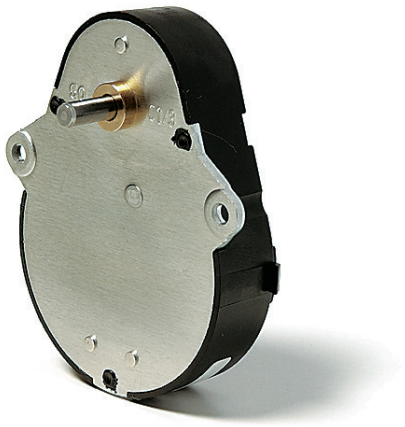
In combination with motors n=250 rpm, continuous operation and $T_{ambient}$
- 10000 h
- 1000 h

In combination with motors n=500 rpm, continuous operation and $T_{ambient}$
- 10000 h
- 1000 h

UGM

UGM

Dimensions (mm)	51 x 65.2
Height (mm)	15
Max. torque (cNm)	100
Ratios	12.5 ... 4800
Internal slipping clutch	none
Standard shaft (mm)	∅ 4 x 10
Weight (g)	45
Motor combination	Series UC, UB and UD; Series UF without UFR3/4 and UFB3/4



Standard Data

Mounting	any position
Axial thrust F_A	20 N
Lateral force F_R	100 N
Output shafts	∅ 4 x 10, other on request
Climatic class	wide-spread according to DIN IEC 60721-2-1
Ambient temperature operation	°C -15 ... +60
Ambient temperature storage	°C -40 ... +80

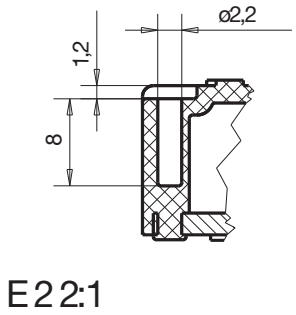
Ratios	12 ½	16 ⅔	25	50	100	120	150	200	240	300	400	450	500	600
	750	1000	1200	1500	4800									

Order Reference

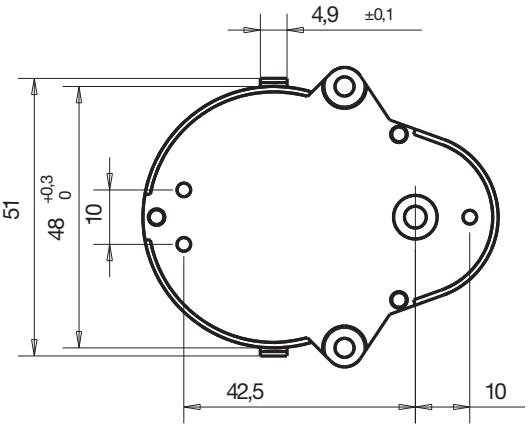
			UGM	100	N	N
Type	Gearbox					
Ratio		100				
Slipping clutch	N	Without slipping clutch				
Shaft end	N	∅ 4 x 10, other on request				

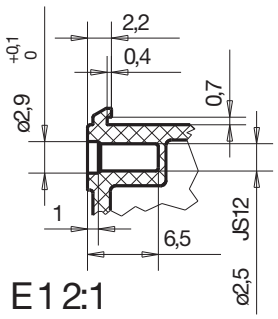
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Dimensions

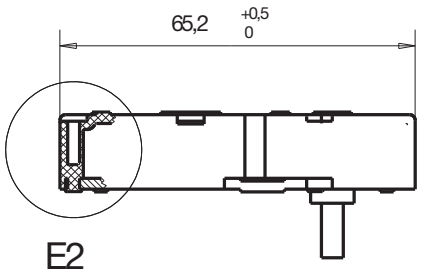


E2 2:1

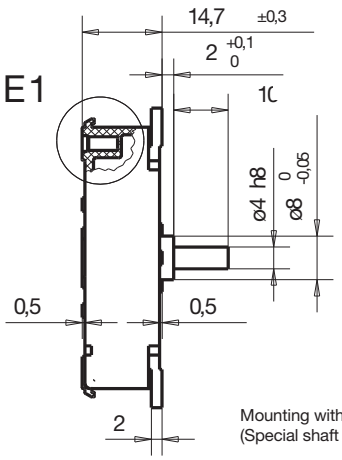




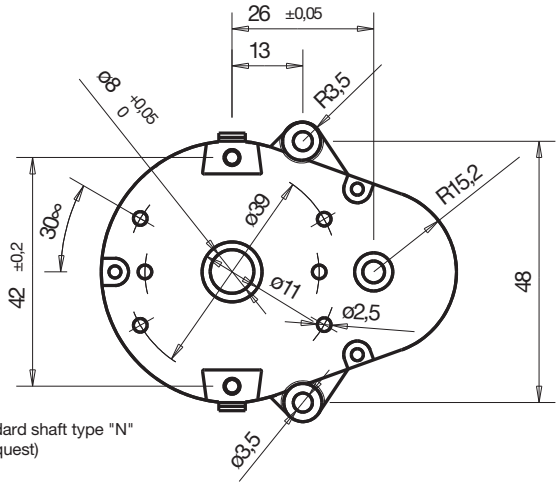
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E2

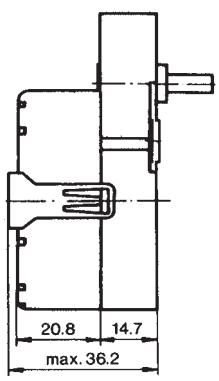


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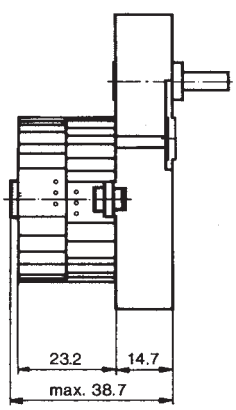


Mounting with standard shaft type "N"
(Special shaft on request)

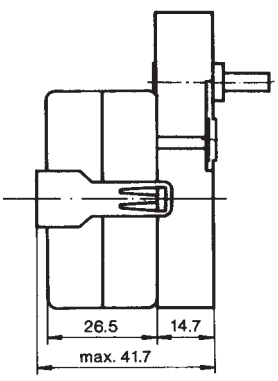
UDS 1..M



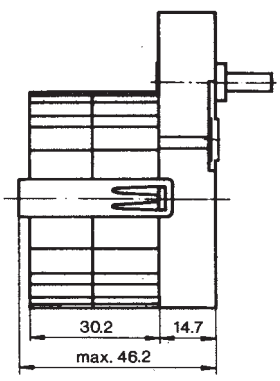
UBR 1..M



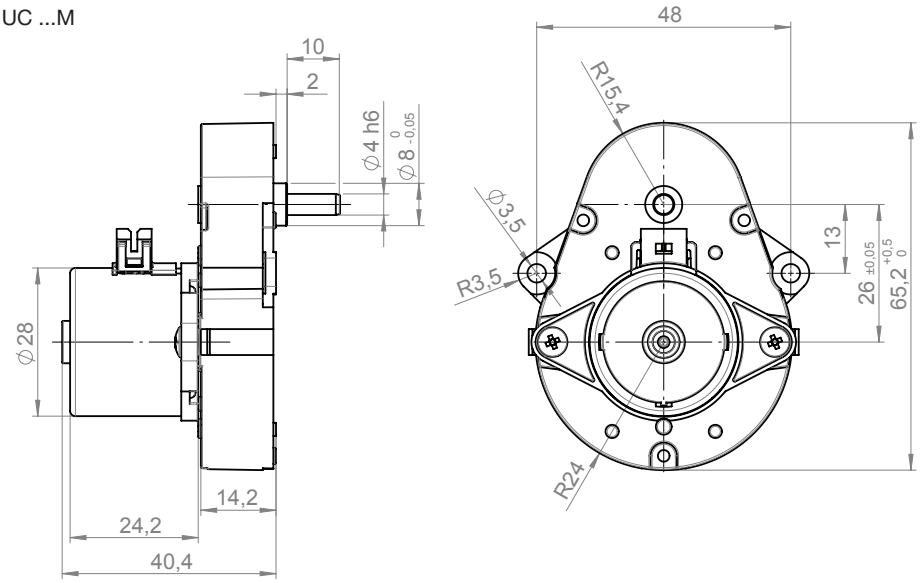
UDR 1..M



UFM 1/UFU 1/UFR 1..M

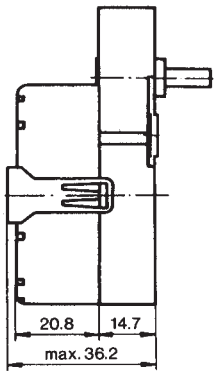


Dimensions UC ...M

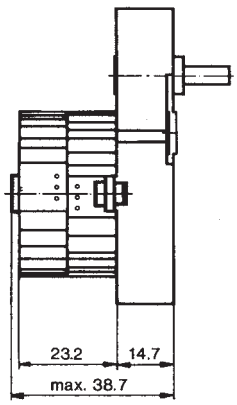


Motor mounting

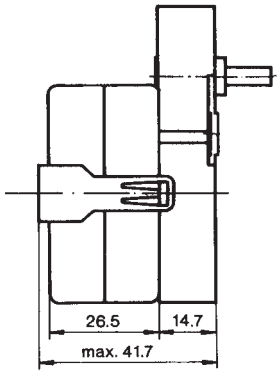
UDS 1..M



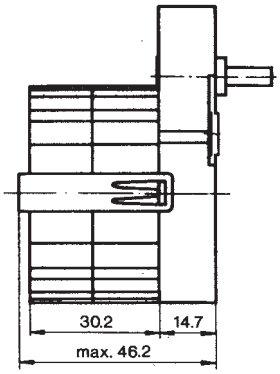
UBR 1..M



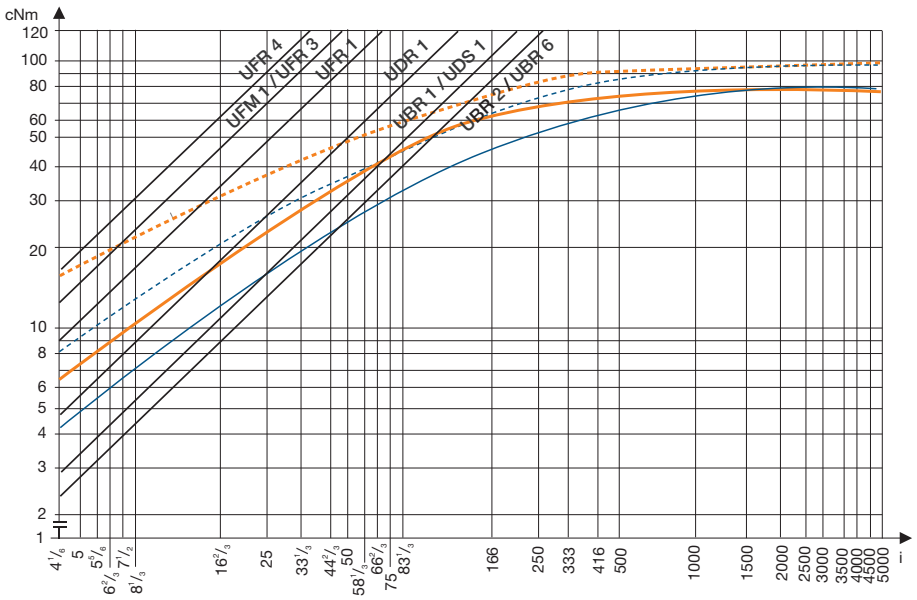
UDR 1..M



UFM 1/UFU 1/UFR 1..M



Torque / ratio / life graph



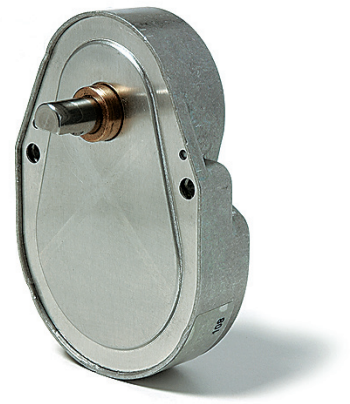
motor torque with consideration for gear efficiency

In combination with motors n=250 rpm, continuous operation and $T_{ambient}$
- 10000 h
- 1000 h

In combination with motors n=500 rpm, continuous operation and $T_{ambient}$
- 10000 h
- 1000 h

UGB

Dimensions (mm)	58 x 81
Height (mm)	17
Max. torque (cNm)	250
Ratios	41 2/3 ... 345.600
Internal slipping clutch	optional
Standard shaft (mm)	∅ 8 x 12
Weight (g)	130
Motor combination	Series UC, UB and UD; Series UF without UFR3/4 and UFB3/4



Standard Data

Mounting	any position
Axial thrust F_A	100 N
Lateral force F_R	300 N
Slipping clutches/free wheel	single-way clockwise/counter clockwise function and two way
Slipping-/free wheel torque	4 ... 175 cNm
Output shafts	Ø 8 x 12, other on request
Climatic class	wide-spread according to DIN IEC 60721-2-1
Ambient temperature operation	°C -15 ... +55
Ambient temperature storage	°C -40 ... +80

Ratios													
	41 2/3	83 1/3	100	125	150	166 2/3	200	250	300	500	600	750	900
	1000	1200	1500	1800	2000	2500	3000	3750	5000	6000	7500	12000	15000
	18000	30000	36000	60000	120000	266666 2/3	288000	320000	345600				

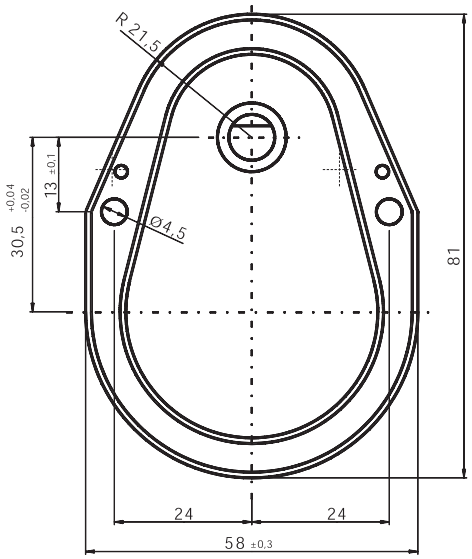
Order Reference

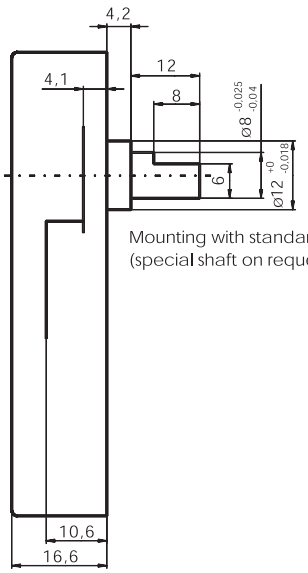
Type	Gearbox	UGB	100	N	5cNm	N
Ratio	100					
Slipping clutch	N Without slipping clutch ER One-way slipping clutch, clockwise EL One-way slipping clutch, counter clockwise Z Two-way slipping clutch					
Slipping torque	5 cNm					
Shaft end	N ∅ 8 x 12, other on request					

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UGB

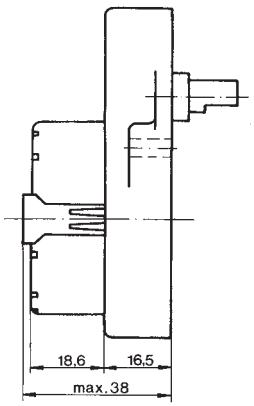
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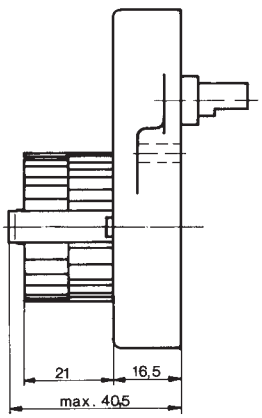


Mounting with standard shaft "N"
(special shaft on request)

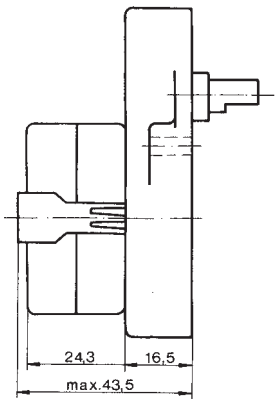
UDS 1..B



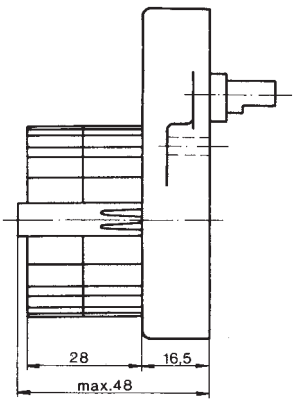
UBR 1/UBR 2..B



UDR 1..B



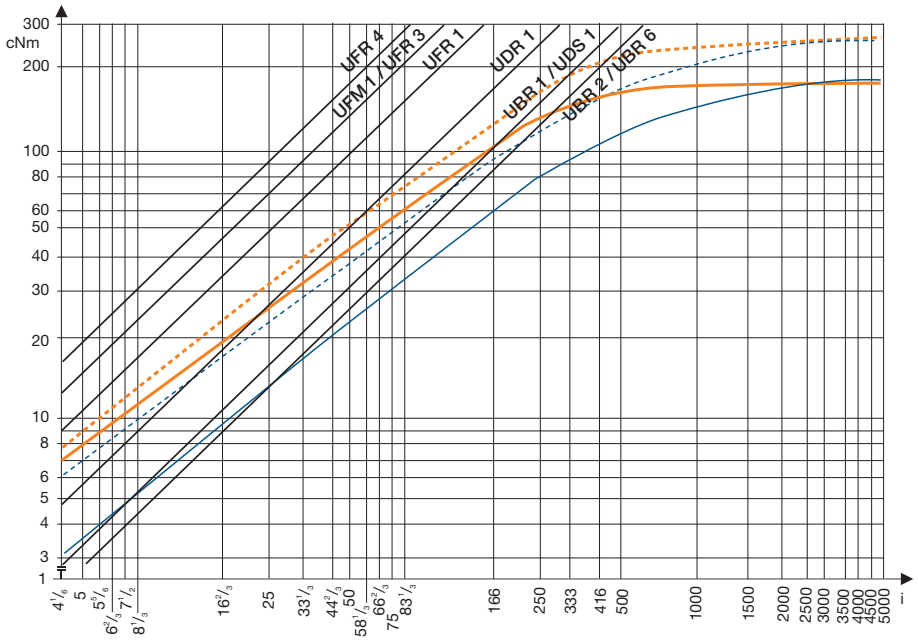
UFM 1/UFU 1/UFR 1..B



Slipping clutches

	max. torque available at output shaft (cNm)	free wheel-/clutch torque (cNm)
Roller-type free wheel		
Single-way slipping clutches	150	4 ... 50 counter clockwise or clockwise direction possible
Two-way slipping clutches	40 ... 70	60 ... 175

Torque / ratio / life graph



motor torque with consideration for gear efficiency

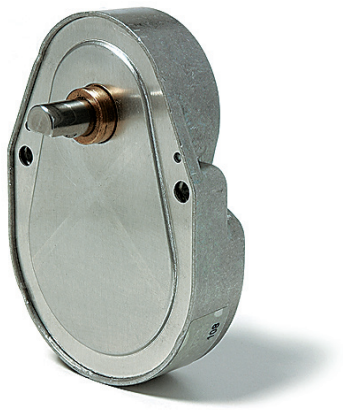
In combination with motors n=250 rpm, continuous operation and $T_{ambient}$
- 10000 h
- 1000 h

In combination with motors n=500 rpm, continuous operation and $T_{ambient}$
- 10000 h
- 1000 h

UGF

UGF

Dimensions (mm)	58 x 81
Height (mm)	17
Max. torque (cNm)	500
Ratios	4 1/6 ... 5000
Internal slipping clutch	none
Standard shaft (mm)	∅ 8 x 12
Weight (g)	130
Motor combination	Series UC, UB, UD, UF



Standard Data

Mounting	any position
Axial thrust F_A	100 N
Lateral force F_R	400 N
Slipping clutches/free wheel	none
Slipping-/free wheel torque	cNm
Output shafts	∅ 8 x 12, other on request
Climatic class	wide-spread according to DIN IEC 60721-2-1
Ambient temperature operation	°C -15 ... +55
Ambient temperature storage	°C -40 ... +80

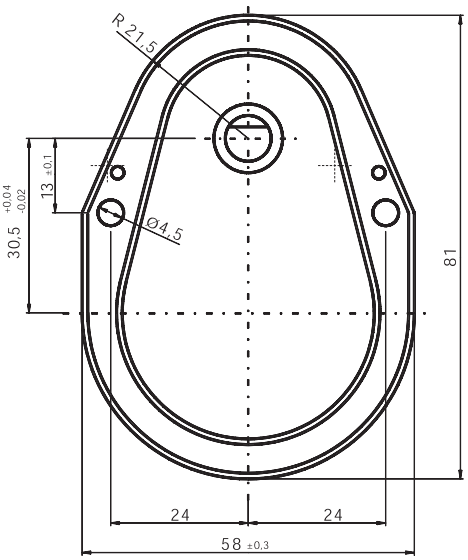
Ratios												
4 1/6	8 1/3	16 2/3	20 5/6	25	30	41 2/3	50	62 1/2	83 1/3	100	125	166 2/3
250	333 1/3	500	600	750	1000	1200	1500	4000	5000			

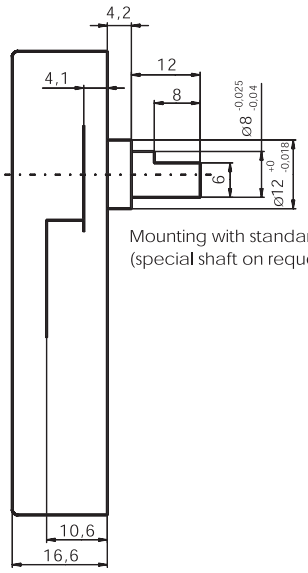
Order Reference

			UGF	100	N	N
Type	Gearbox					
Ratio		100				
Slipping clutch	N	Without slipping clutch				
Shaft end	N	∅ 8 x 12, other on request				

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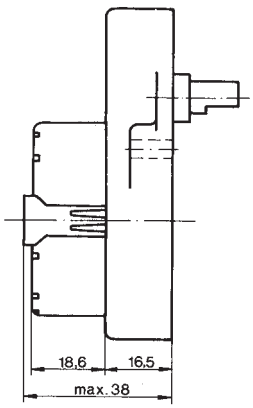
Dimensions



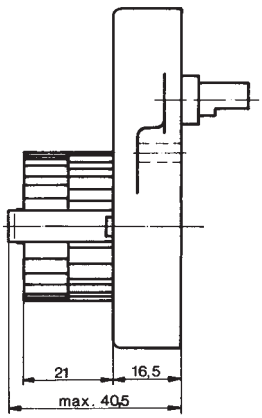


Mounting with standard shaft "N"
(special shaft on request)

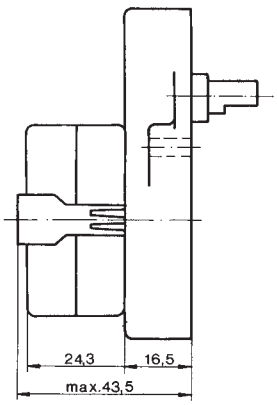
UDS 1..F



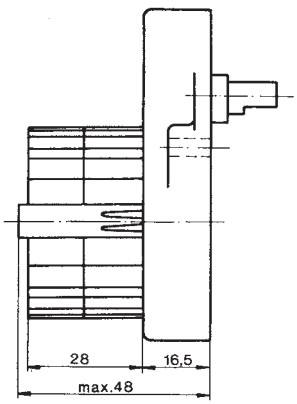
UBR 1/UBR 2..F



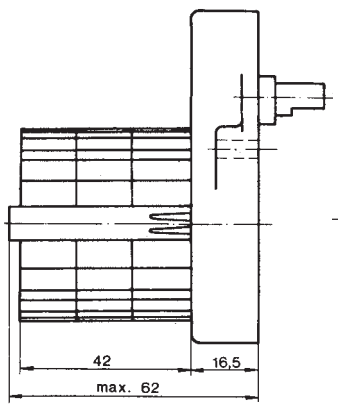
UDR 1..F



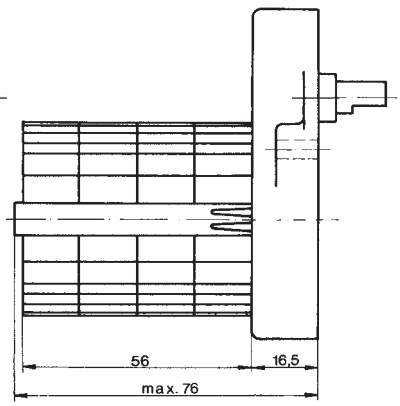
UFM 1/UFU 1/UFR 1..F



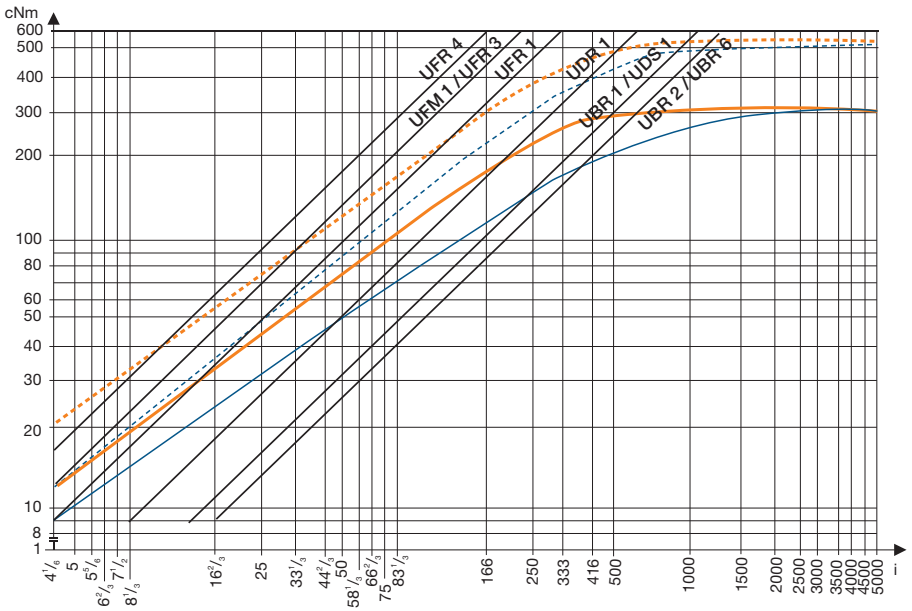
UFR 3..F



UFR 4..F



Torque / ratio / life graph



motor torque with consideration for gear efficiency

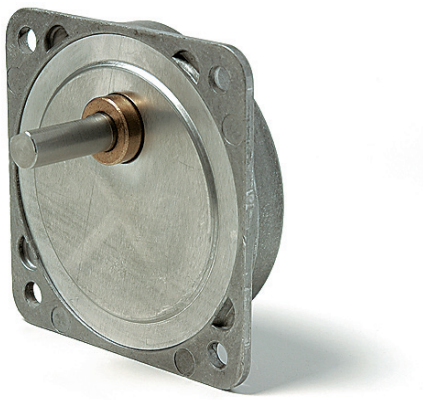
In combination with motors n=250 rpm, continuous operation and $T_{ambient}$
- 10000 h
- 1000 h

In combination with motors n=500 rpm, continuous operation and $T_{ambient}$
- 10000 h
- 1000 h

UGV

UGV

Dimensions (mm)	70 x 70
Height (mm)	17
Max. torque (cNm)	500
Ratios	8 1/3 ... 2000
Internal slipping clutch	none
Standard shaft (mm)	∅ 8 x 12
Weight (g)	130
Motor combination	Series UB, UD, UF



Standard Data

Mounting	any position
Axial thrust F_A	100 N
Lateral force F_R	400 N
Output shafts	Ø 8 x 12, other on request
Climatic class	wide-spread according to DIN IEC 60721-2-1
Ambient temperature operation	°C -15 ... +55
Ambient temperature storage	°C -40 ... +80

Ratios									
8 1/3	16 2/3	25	41 2/3	83 1/3	100	125	250	500	2000

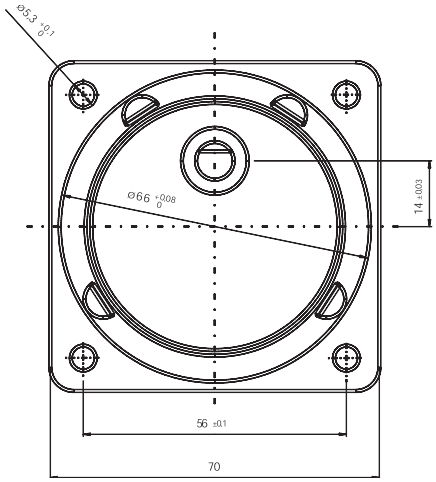
Order Reference

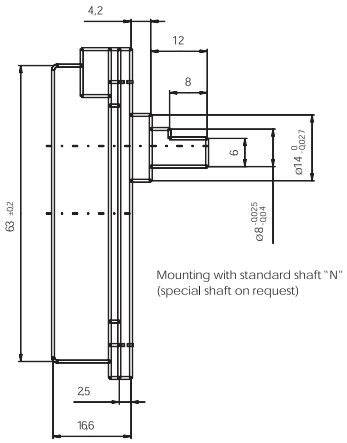
Type	Gearbox		UGV	100	N	N
Ratio		100				
Slipping clutch	N	Without slipping clutch				
Shaft end	N	∅ 8 x 12, other on request				

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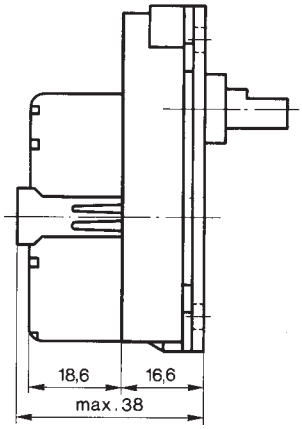
UGV

Dimensions

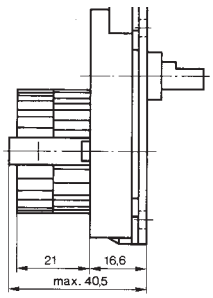




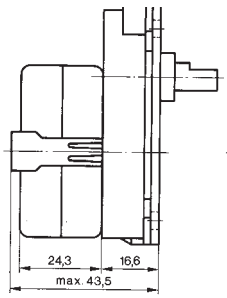
UDS 1..V



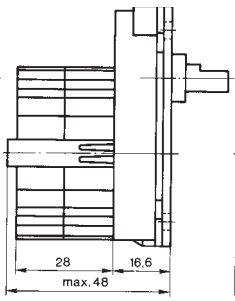
UBR 1/UBR 2..V



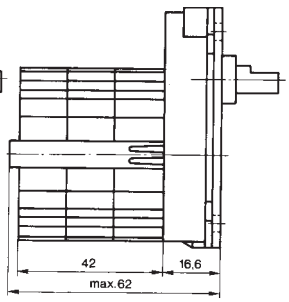
UDR 1..V



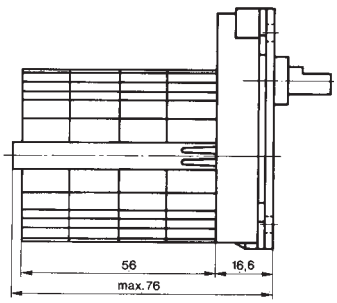
UFM 1/UFU1/UFR 1..V



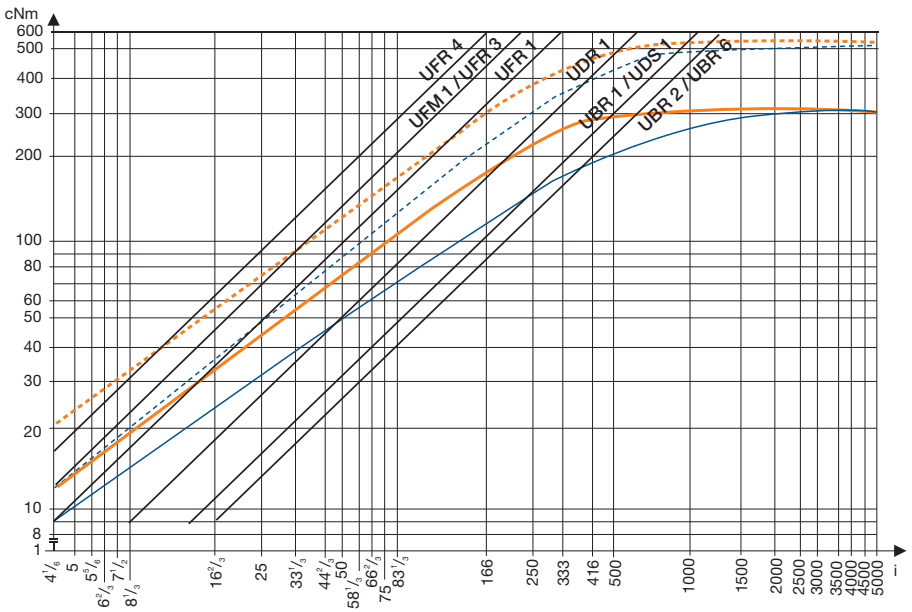
UFR 3..V



UFR 4..V



Torque / ratio / life graph



motor torque with consideration for gear efficiency

In combination with motors
n=250 rpm, continuous operation
and $T_{ambient}$
- 10000 h
- 1000 h

In combination with motors
n=500 rpm, continuous operation
and $T_{ambient}$
- 10000 h
- 1000 h

UGO/UGP (STG60/61)

Dimensions (mm)	65 x 65/68 x 68
Height (mm)	29.8–38
Max. torque (cNm)	600
Ratios	6 1/4 ... 3750
Internal slipping clutch	none
Standard shaft (mm)	∅ 8 x 22
Weight (g)	230–330
Motor combination	series UF and UP



UGO (STG 60)



UGP (STG 61)

Standard Data

Mounting	any position	
Max. input speed*	3000 min^{-1}	
Max. output torque*	600 cNm	
Max. input -and output power	please refer to table in Technical Data	
Average back lash	unloaded	1.5 degree
	2–4 stages with 6 Nm	3 degree
	5–6 stages with 6 Nm	4 degree
Max. axial force F_A	30 N	
Max. lateral force F_R, 12 mm from flange	80 N	
Max. axial play	0.3 mm	
Max. radial play	20 µm	
Ambient temperature operation	–15 ... +60°C	
Ambient temperature storage	–40 ... +100 °C	

Ratio										
	6 1/4	12 1/2	18 3/4	25	31 1/4	37 1/2	46 7/8	50	62 1/2	75
	93 3/4	125	150	187 1/2	250	375	750	1500	2000	3750

* Depends on ratio, see next page

Order Reference

Type	Gearbox			STG60 UGO	6 1/4	M	N
Ratio	6 1/4						
Mounting layouts (fixing)	K	UGO					
	M	UGP	through holes				
	R	M4	threads on gearbox flange side				
	T	M4	threads on motor side				
	V	M4	threads on both sides				
			shaft end N Ø 8 x 25, other upon request				
optional	motor pinion: see next pages		Motor Pinion Data				
	adaptor plate: see next pages		for adaptor plate				

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Technical Data

Ratio	Stages *	Efficiency	Pinion type	Weight	Max. torque (Nm)	Max. input speed (rpm)
6 1/4	2	0.77	1	190	1.0	750
12 1/2	3	0.68	2	220	1.8	1500
18 3/4	3	0.68	3	220	2.7	2250
25	3	0.68	3	220	3.6	3000
31 1/4	3	0.68	4	220	4.5	3000
37 1/2	3	0.68	4	220	5.4	3000
46 7/8	4	0.60	3	250	6	3000
50	4	0.60	2	250	6	3000
62 1/2	4	0.60	2	250	6	3000
75	4	0.60	3	250	6	3000
93 3/4	4	0.60	3	250	6	3000
125	4	0.60	2	250	6	3000
150	4	0.60	3	250	6	3000
187 1/2	4	0.60	4	250	6	3000
250	5	0.53	2	280	6	3000
375	5	0.53	3	280	6	3000
750	5	0.53	4	280	6	3000
1500	6	0.46	4	310	6	3000
2000	6	0.46	4	310	6	3000
3750	6	0.46	4	310	6	3000

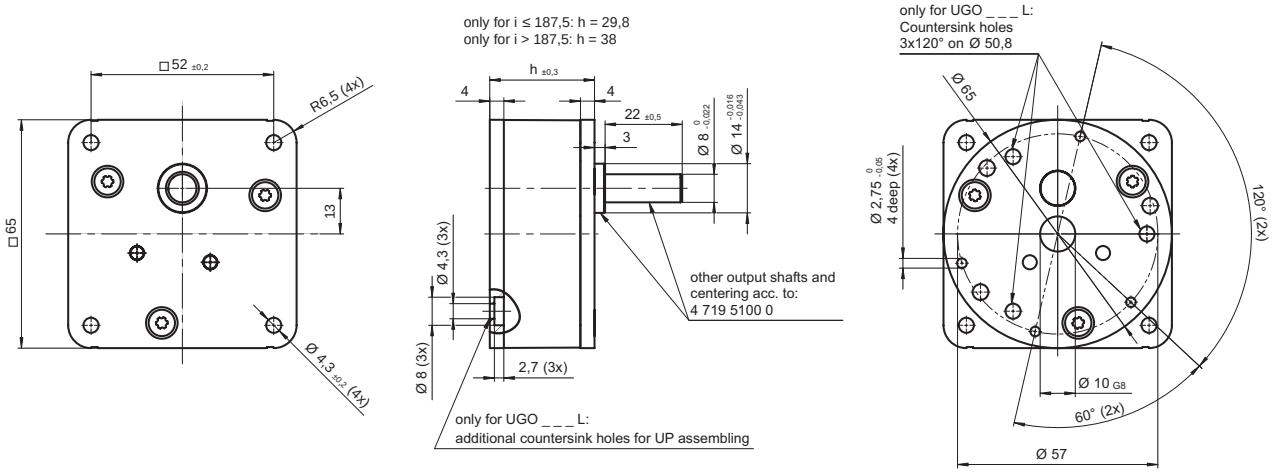
Additionally to the input speed limit: max. 120 rpm output speed

Technical Data valid for an ambient temperature operation: −15...+60°C

* Direction of rotation of output- and motor-shaft at 2.4 and 6 stages - same
3 and 5 stages - opposite

UGO/UGP

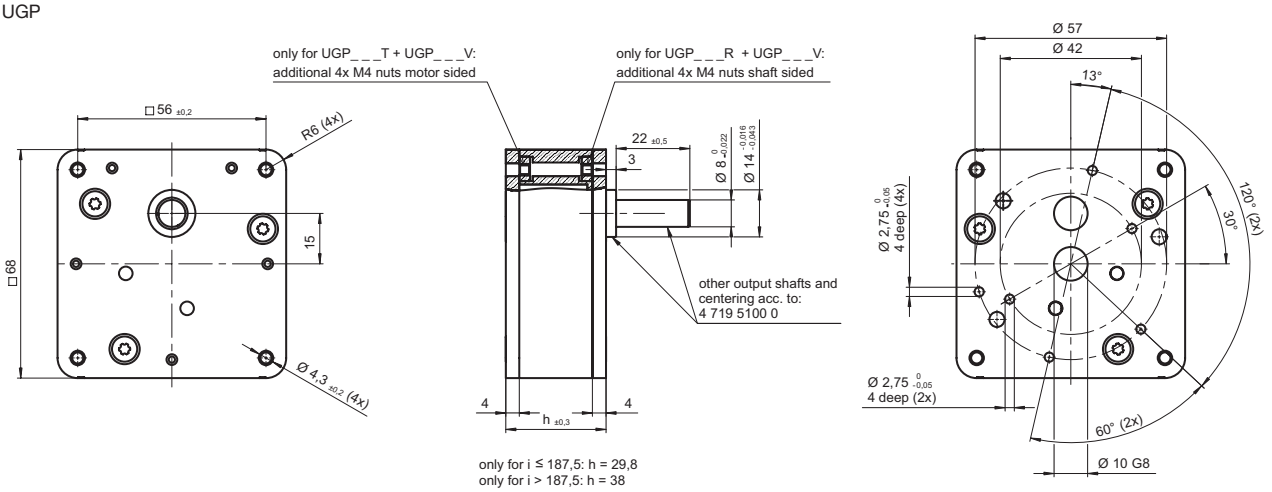
Dimensions UGO



not dimensioned holes suitable for adaptor plate AP60 (accessories)

holes ø2,75 are intended for thread forming screws M3

UGP



not dimensioned holes suitable for adaptor plate AP60 (accessories)

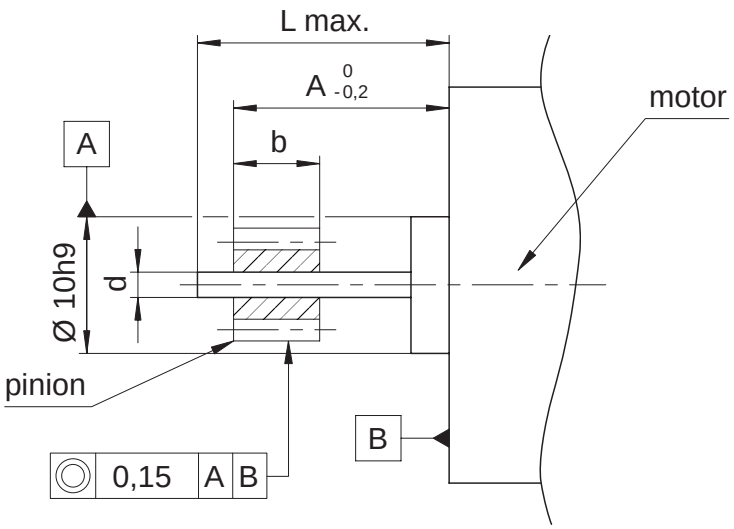
holes ø2,75 are intended for thread forming screws M3

Other shafts on request

Motor Pinion Data UGO/P (STG 60/61)

pinion type	pinion length b	motor pinion with hole d: 022 100 004 ...			
		Ø2.5S7	Ø3S7	Ø4X7	Ø5S7
1	6	-	020	030	040
2	4.5	-	080	090	110
3	4.5	270	280	290	310
4	4.5	580	590	600	610

Dimensions for motor assembly



Pinion position

Dimension	A	L
2 gear stages	8,9	9,6
3-6 gear stages	7,6	7,6

UGJ

UGJ

Dimensions (mm)	65 x 107
Height (mm)	28
Max. torque (cNm)	1500
Ratios	4 1/6 ... 36.000.000
Internal slipping clutch	none
Standard shaft (mm)	∅ 12 x 20
Weight (g)	480
Motor combination	Series UB, UD, UF



Standard Data

Mounting	any position
Axial thrust F_A	400 N
Lateral force F_R	600 N
Output shafts	∅ 12 x 20, other on request
Climatic class	wide-spread according to DIN IEC 60721-2-1
Ambient temperature operation	°C -15 ... +55
Ambient temperature storage	°C -40 ... +80

Ratios*												
4 1/6	8 1/3	16 2/3	33 1/3	41 2/3	50	66 2/3	83 1/3	100	125	150	166 2/3	200
250	500	1000	2000	2500	3000	4000	5000	6250	8333 1/3	10000	12500	15000
20000	25000	30000	37500	60000	75000	120000	150000	300000	375000	750000	1500000	1800000
2250000	3000000	3600000	4500000	6000000	9000000	11250000	12000000	18000000	36000000			

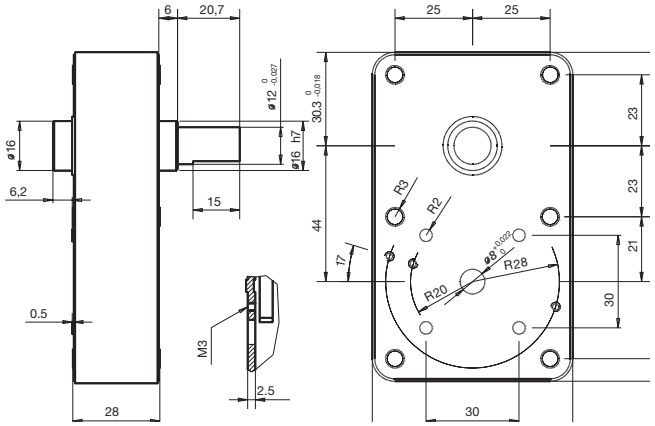
* For ratio ≥ 2500 combination with UGD

Order Reference

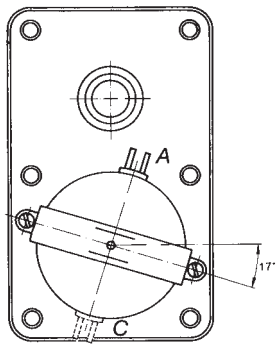
Type	Gearbox	UGJ	100	N	N
Ratio	100				
Slipping clutch	N Without slipping clutch				
Shaft end	N ∅ 12 x 20, other on request				

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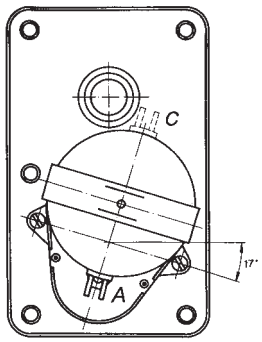
Dimensions



i ≤ 2000

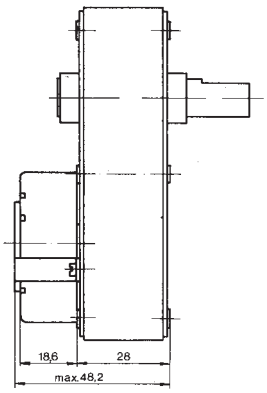


i ≥ 2500

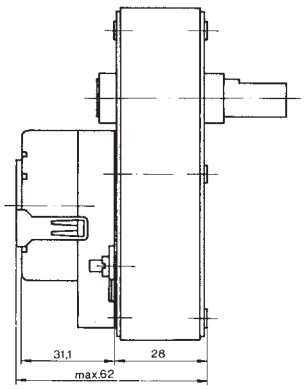


Lead outlet (A = standard position)

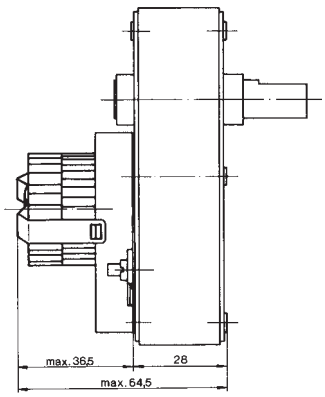
UDS 1..J, ≤ 2000



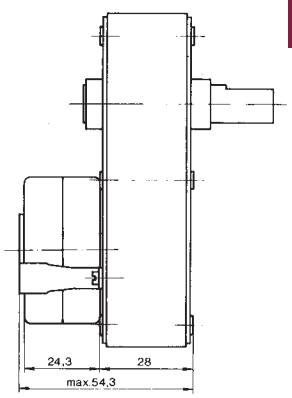
UDS 1..J, ≥ 2500



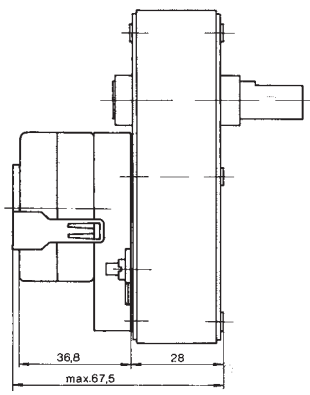
UBR 1/UBR 2..J, ≥ 2500



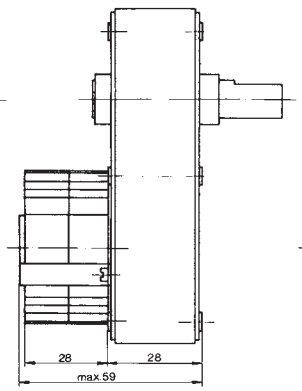
UDR 1..J, ≤ 2000



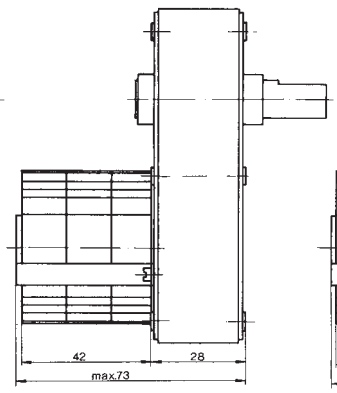
UDR 1..J, i ≥ 2500



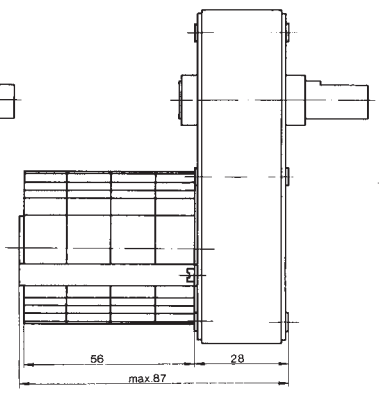
UFM 1/UFU 1/UFR 1..J, i ≤ 2000



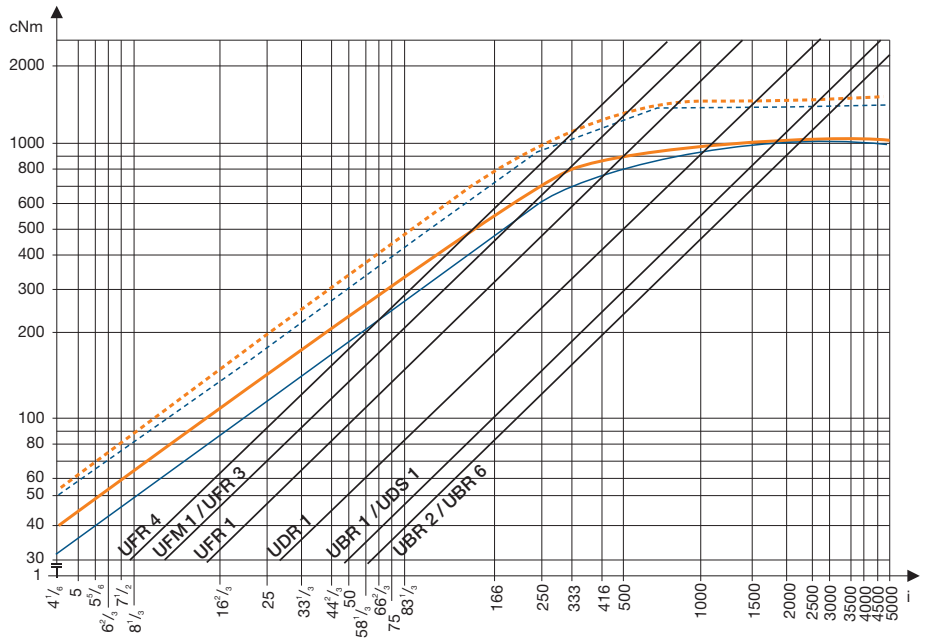
UFR 3..J, i ≤ 2000



UFR 4..J, i ≤ 2000



Torque / ratio / life graph



motor torque with consideration for gear efficiency

In combination with motors
n=250 rpm, continuous operation
and $T_{ambient}$
- 10000 h
- 1000 h

In combination with motors
n=500 rpm, continuous operation
and $T_{ambient}$
- 10000 h
- 1000 h