

## Characteristics

No of Stages Ratio <sup>(1)</sup>		1-stage					2-stages						
		3	4	5	7	10	16	20	25	35	50	70	100
<b>INPUT</b>													
Rated speed / Max. speed	rpm	4 000 / 6 000											
Power in @ T1 & N1 rated	Kw	1,87	1,87	1,56	1,19	0,67	1,00	0,67	0,54	0,39	0,26	0,16	0,08
Rated torque (T1)	Nm	<b>6,85</b>	<b>5,15</b>	<b>4,10</b>	<b>3,10</b>	<b>1,95</b>	<b>2,40</b>	<b>1,59</b>	<b>1,27</b>	<b>0,91</b>	<b>0,64</b>	<b>0,39</b>	<b>0,20</b>
<b>Accel torque</b>	<b>Nm <sup>(2)</sup></b>	<b>13,35</b>	<b>10</b>	<b>7,55</b>	<b>5,40</b>	<b>3,25</b>	<b>3,16</b>	<b>2,20</b>	<b>1,76</b>	<b>1,32</b>	<b>0,92</b>	<b>0,63</b>	<b>0,35</b>
<b>OUTPUT</b>													
Rated speed	rpm	1333	1000	800	571	400	250	200	160	114	80	57	40
Rated torque (T2)	Nm	<b>19,7</b>	<b>19,7</b>	<b>19,7</b>	<b>20,8</b>	<b>18,7</b>	<b>35</b>	<b>29</b>	<b>29</b>	<b>29</b>	<b>29</b>	<b>25</b>	<b>18</b>
<b>Accel torque</b>	<b>Nm <sup>(2)</sup></b>	<b>38</b>	<b>38</b>	<b>36</b>	<b>36</b>	<b>31</b>	<b>46</b>	<b>40</b>	<b>40</b>	<b>42</b>	<b>42</b>	<b>40</b>	<b>32</b>
<b>GENERAL DATA</b>													
Inertia	Kg-m <sup>2</sup> x10 <sup>-5</sup> <sup>(3)</sup>	3,30	3,30	3,27	3,04	2,93	3,20	3,00	3,16	3,00	2,90	2,90	2,90
Max. backlash	arc-mins	15 or 5											
Efficiency	% <sup>(4)</sup>	96						91					
Life time	H	15 000											
Weight	Kg	1,7						2,2					
Radial Load	N <sup>(5)</sup>	1 500											
Axial Load	N	1 300											

(1) Please enquire if a desired ratio is not shown.

(2) S5 duty service.

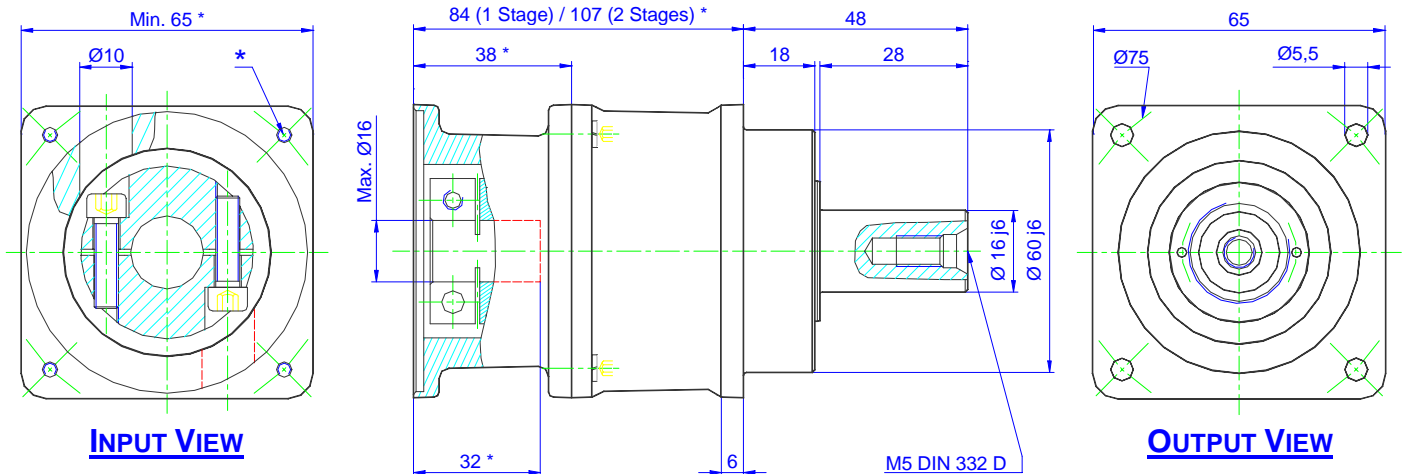
(3) On the motorside.

(4) Gear efficiency at rated load.

(5) Load applied in the middle of the output shaft at 300 rpm.

NOTE-- Emergency Stop Torque is 2.5 times Rated Output Torque for 1000 times max during the service life of the gearhead.

## Dimensions [mm]



M105 - 10/2001

\* Depends on gear ratio and / or on the motor dimension

Specifications are subject to change without notice



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## Characteristics

No of Stages		1 - stage					2 - stages								3 - stages	
Ratio <sup>(1)</sup>		3	4	5	7	10	16	20	25	35	40	50	70	100	125	175
<b>INPUT</b>																
Rated speed / Max. speed	rpm	4 000 / 6 000														
Power in @ T1 & N1 rated	Kw	12,3	9,2	7,4	4,3	2,2	2,5	1,9	1,6	1,2	0,9	0,8	0,5	0,2	0,4	0,2
Rated torque (T1)	Nm	29,5	22,1	17,7	10,4	5,2	5,9	4,7	3,7	2,7	2,3	1,9	1,3	0,5	0,8	0,6
Accel torque	Nm <sup>(2)</sup>	38	29	21	15	8	9	7	6	4	3,5	3	2	1	1	1
<b>OUTPUT</b>																
Rated speed	rpm	1333	1000	800	571	400	250	200	160	114	100	80	57	40	32	23
Rated torque (T2)	Nm	85	85	85	70	50	86	85	85	86	85	85	70	50	90	84
Accel torque	Nm <sup>(2)</sup>	110	110	100	100	80	125	126	130	134	126	126	100	80	150	154
<b>GENERAL DATA</b>																
Inertia	Kg-m <sup>2</sup> x10 <sup>-5</sup> <sup>(3)</sup>	11,3	11,3	10,4	9,6	9,3	10,8	10,7	10	9,4	9,1	10,8	10,8	10,7	10	9,4
Max. backlash	Arc-mins	10 , 5 or 1														
Efficiency	% <sup>(4)</sup>	96					91					86				
Life time	H	15 000														
Weight	Kg	3					4					5				
Radial Load	N <sup>(5)</sup>	3 500														
Axial Load	N	3 000														

(1) Please enquire if a desired ratio is not shown.

(2) S5 duty service.

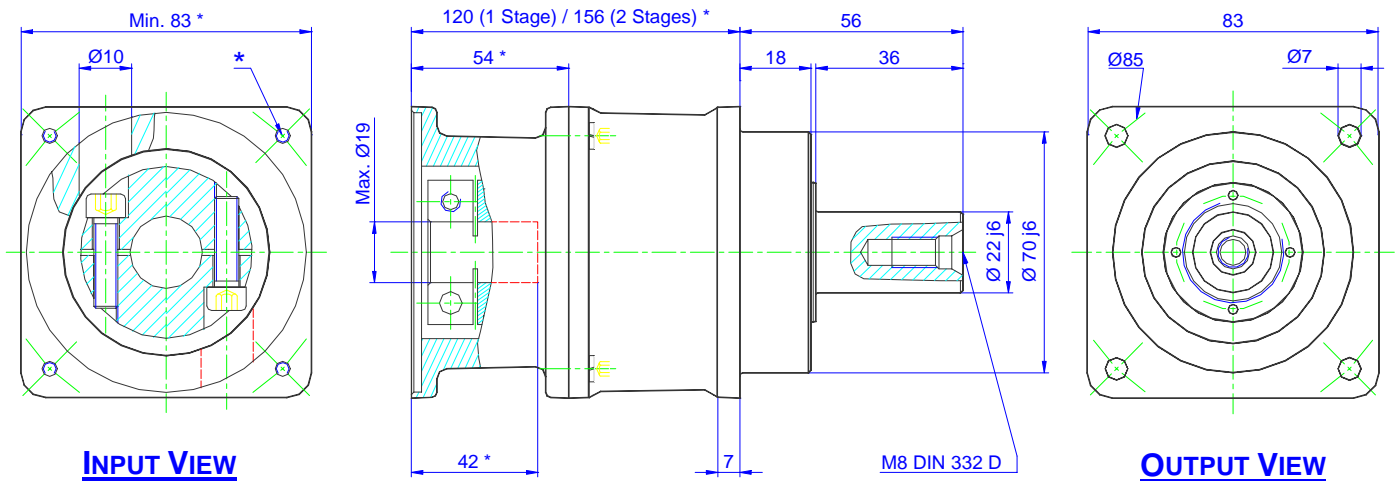
(3) On the motorside.

(4) Gear efficiency at rated load.

(5) Load applied in the middle of the output shaft at 300 rpm.

NOTE-- Emergency Stop Torque is 2.5 times Rated Output Torque for 1000 times max during the service life of the gearhead.

## Dimensions [mm]



M106 - 02/2002

\* Depends on gear ratio and on the motor dimension

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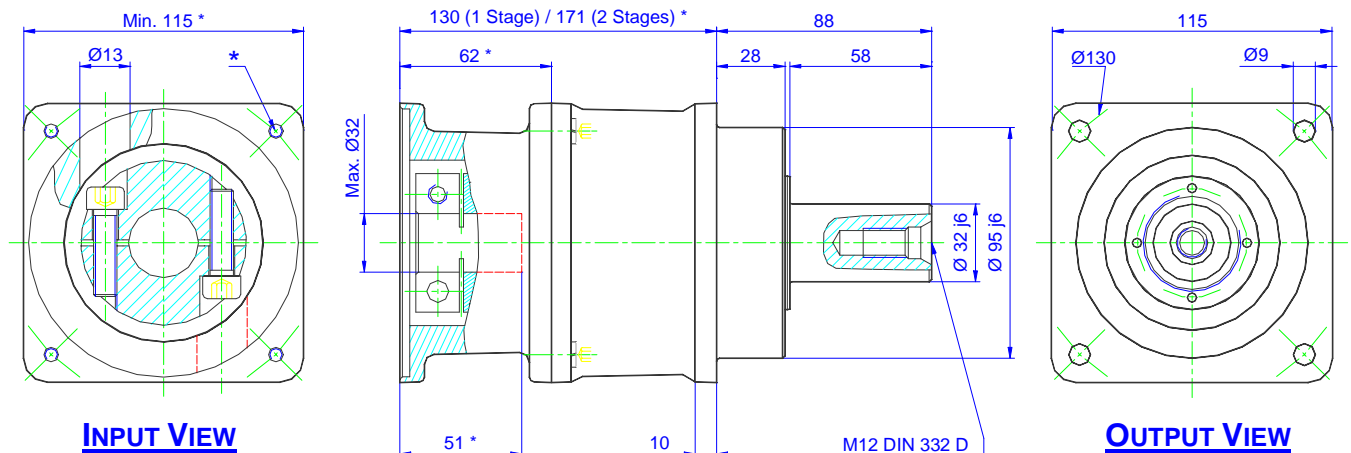
## Characteristics

No of Stages		1 - stage					2 - stages							3 - stages		
Ratio <sup>(1)</sup>		3	4	5	7	10	16	20	25	35	40	50	70	100	125	175
<b>INPUT</b>																
Rated speed / Max. speed	rpm	4 000 / 6 000														
Power in @ T1 & N1 rated	Kw	31,4	31,4	22,2	12,6	6,3	8,3	6,7	5	3,8	2,5	2,1	1,7	1,4	1,1	0,8
Rated torque (T1)	Nm	90	70	50	30	15	20	16	12	9	7	6	4	2	3	2
Accel torque	Nm <sup>(2)</sup>	104	81	56	37	21	23	21	17	13	9	8	5	3	4	3
<b>OUTPUT</b>																
Rated speed	rpm	1333	1000	800	571	400	250	200	160	114	100	82	57	40	32	23
Rated torque (T2)	Nm	270	270	239	189	135	270	270	255	268	255	256	256	180	270	269
Accel torque	Nm <sup>(2)</sup>	306	310	270	250	200	340	382	385	390	310	310	320	270	400	420
<b>GENERAL DATA</b>																
Inertia	Kg-m <sup>2</sup> x10 <sup>-5</sup> <sup>(3)</sup>	44,4	44,4	40,4	36,8	35,1	42,3	42	38,9	36	34,7	42,1	42,1	41,9	38,8	36
Max. backlash	Arc-mins	10 , 5 or 1														
Efficiency	% <sup>(4)</sup>	96					91							86		
Life time	H	15 000														
Weight	Kg	7,5					9							10,5		
Radial Load	N <sup>(5)</sup>	5 500														
Axial Load	N	5 000														

- (1) Please enquire if a desired ratio is not shown.  
 (2) S5 duty service.  
 (3) On the motorside.  
 (4) Gear efficiency at rated load.  
 (5) Load applied in the middle of the output shaft at 300 rpm.

NOTE-- Emergency Stop Torque is 2.5 times Rated Output Torque for 1000 times max during the service life of the gearhead.

## Dimensions [mm]



M108 - 02/2002

\* Depends on gear ratio and on the motor dimension

Specifications are subject to change without notice

# LOW BACKLASH PLANETARY GEARHEADS

# MNT 140

## Characteristics

No of Stages		1 - stage					2 - stages							3 - stages		
Ratio <sup>(1)</sup>		3	4	5	7	10	16	20	25	35	40	50	70	100	125	175
<b>INPUT</b>																
Rated speed / Max. speed	rpm	4 000 / 6 000														
Power in @ T1 & N1 rated	Kw	41,9	41,9	40,1	22,9	11,3	12,1	12,1	9,6	6,7	4,6	3,4	2,9	2,5	2,1	1,3
Rated torque (T1)	Nm	125	100	96	55	27	29	29	23	16	12	10	6	3	5	3
Accel torque	Nm <sup>(2)</sup>	173	130	104	74	41	34	31	25	17	15	12	8	4	6	4
<b>OUTPUT</b>																
Rated speed	rpm	1333	1000	800	571	400	250	200	160	114	100	82	57	40	32	23
Rated torque (T2)	Nm	360	384	450	369	259	394	493	489	476	450	450	380	273	500	420
Accel torque	Nm <sup>(2)</sup>	500	500	500	500	400	500	560	560	540	546	550	500	360	600	560
<b>GENERAL DATA</b>																
Inertia	Kg-m <sup>2</sup> x10 <sup>-5</sup> <sup>(3)</sup>	95	89	86	77	72	91	91	85	80	75	70	70	70	68	68
Max. backlash	Arc-mins	10, 5 or 1														
Efficiency	% <sup>(4)</sup>	96					91							86		
Life time	H	15 000														
Weight	Kg	9					17							23		
Radial Load	N <sup>(5)</sup>	9 100														
Axial Load	N	9 100														

(1) Please enquire if a desired ratio is not shown.

(2) S5 duty service.

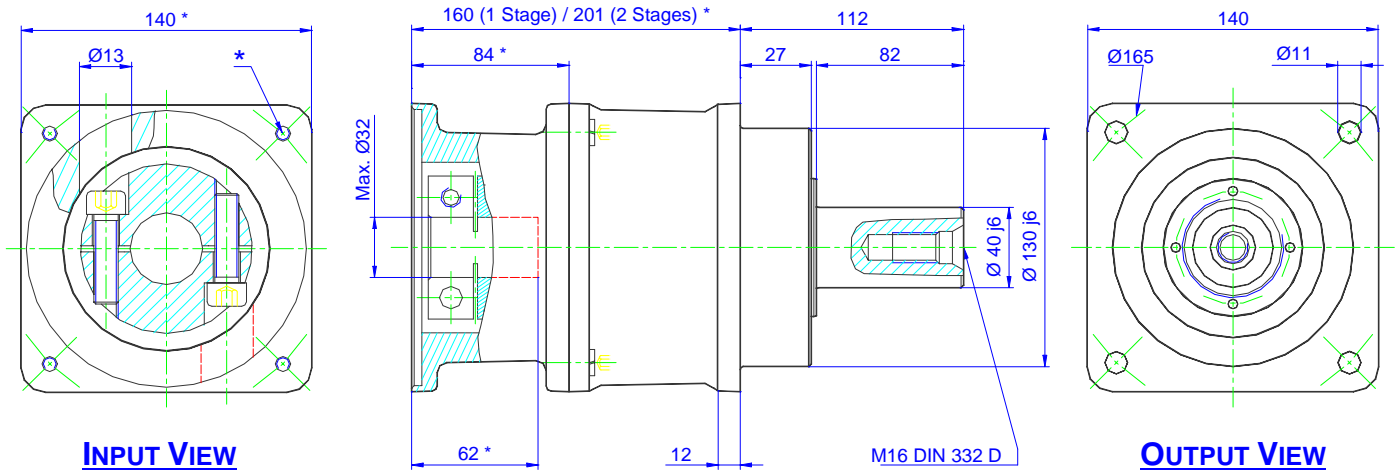
(3) On the motorside.

(4) Gear efficiency at rated load.

(5) Load applied in the middle of the output shaft at 300 rpm.

NOTE-- Emergency Stop Torque is 2.5 times Rated Output Torque for 1000 times max during the service life of the gearhead.

## Dimensions [mm]



M108 - 02/2002

\* Depends on gear ratio and on the motor dimension

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## Characteristics

No of Stages		1 - stage					2 - stages							3 - stages		
Ratio <sup>(1)</sup>		3	4	5	7	10	16	20	25	35	40	50	70	100	125	175
<b>INPUT</b>																
Rated speed / Max. speed	rpm	2 000 / 4 000														
Power in @ T1 & N1 rated	Kw	56,5	56,5	56,5	34,3	16,7	15,9	15,9	12,5	9,2	6,2	4,1	4,1	3,3	2,9	2,1
<b>Rated torque (T1)</b>	Nm	<b>190</b>	<b>143</b>	<b>135</b>	<b>82</b>	<b>57</b>	<b>38</b>	<b>38</b>	<b>30</b>	<b>22</b>	<b>15</b>	<b>15</b>	<b>8</b>	<b>6</b>	<b>7</b>	<b>5</b>
<b>Accel torque</b>	Nm <sup>(2)</sup>	<b>350</b>	<b>260</b>	<b>208</b>	<b>157</b>	<b>83</b>	<b>69</b>	<b>55</b>	<b>44</b>	<b>31</b>	<b>27</b>	<b>22</b>	<b>16</b>	<b>9</b>	<b>9</b>	<b>7</b>
<b>OUTPUT</b>																
Rated speed	rpm	667	500	400	286	200	125	100	80	57	50	40	29	20	16	11
<b>Rated torque (T2)</b>	Nm	<b>550</b>	<b>550</b>	<b>650</b>	<b>550</b>	<b>550</b>	<b>553</b>	<b>691</b>	<b>682</b>	<b>700</b>	<b>545</b>	<b>680</b>	<b>550</b>	<b>550</b>	<b>752</b>	<b>752</b>
<b>Accel torque</b>	Nm <sup>(2)</sup>	<b>1000</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>	<b>800</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>	<b>800</b>	<b>1000</b>	<b>1000</b>
<b>GENERAL DATA</b>																
Inertia	Kg-m <sup>2</sup> x10 <sup>-5</sup> <sup>(3)</sup>	422	262	207	162	138	226	223	182	148	132	130	128	125	181	148
Max. backlash	Arc-mins	6 or 3														
Efficiency	% <sup>(4)</sup>	96					91							86		
Life time	H	15 000														
Weight	Kg	45					50							55		
Radial Load	N <sup>(5)</sup>	14 500														
Axial Load	N	14 000														

(1) Please enquire if a desired ratio is not shown.

(2) S5 duty service.

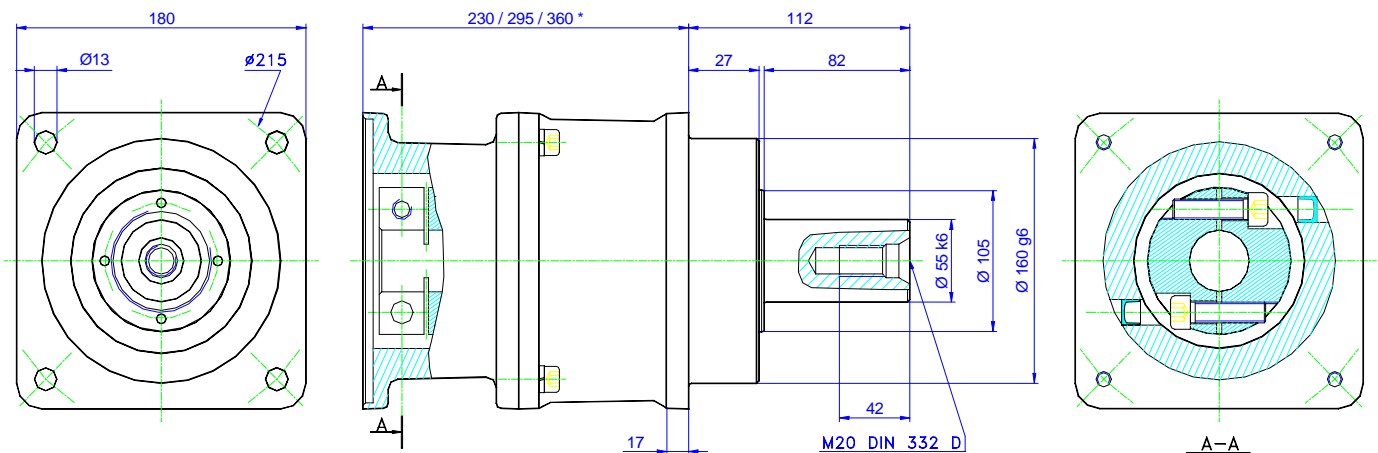
(3) On the motorside.

(4) Gear efficiency at rated load.

(5) Load applied in the middle of the output shaft at 300 rpm.

NOTE-- Emergency Stop Torque is 2.5 times Rated Output Torque for 1000 times max during the service life of the gearhead

## Dimensions [mm]



OUTPUT VIEW

INPUT VIEW

M105 - 02/2002

\* Depends on gear ratio and on the motor dimension

Specifications are subject to change without notice

## Characteristics

No of Stages		1 - stage					2 - stages							3 - stages		
Ratio <sup>(1)</sup>		3	4	5	7	10	16	20	25	35	40	50	70	100	125	175
<b>INPUT</b>																
Rated speed / Max. speed	rpm	2 000 / 4 000														
Power in @ T1 & N1 rated	Kw	145	109	87	62	43	29	23	18	13	11	9	7	4	4	3
Rated torque (T1)	Nm	348	261	209	148	104	69	55	44	32	27	22	16	9	9	6
Accel torque	Nm <sup>(2)</sup>	660	495	196	223	156	130	104	84	47	41	33	23	16	17	9
<b>OUTPUT</b>																
Rated speed	rpm	667	500	400	286	200	125	100	80	57	50	40	29	20	16	11
Rated torque (T2)	Nm	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Accel torque	Nm <sup>(2)</sup>	1900	1900	1900	1900	1500	1900	1900	1900	1500	1500	1500	1500	1500	1900	1500
<b>GENERAL DATA</b>																
Inertia	Kg-m <sup>2</sup> x10 <sup>-5</sup> <sup>(3)</sup>															
Max. backlash	Arc-mins	6 or 3														
Efficiency	% <sup>(4)</sup>	96					91							86		
Life time	H	15 000														
Weight	Kg	50					55							60		
Radial Load	N <sup>(5)</sup>	18 000														
Axial Load	N	18 000														

(1) Please enquire if a desired ratio is not shown.

(2) S5 duty service.

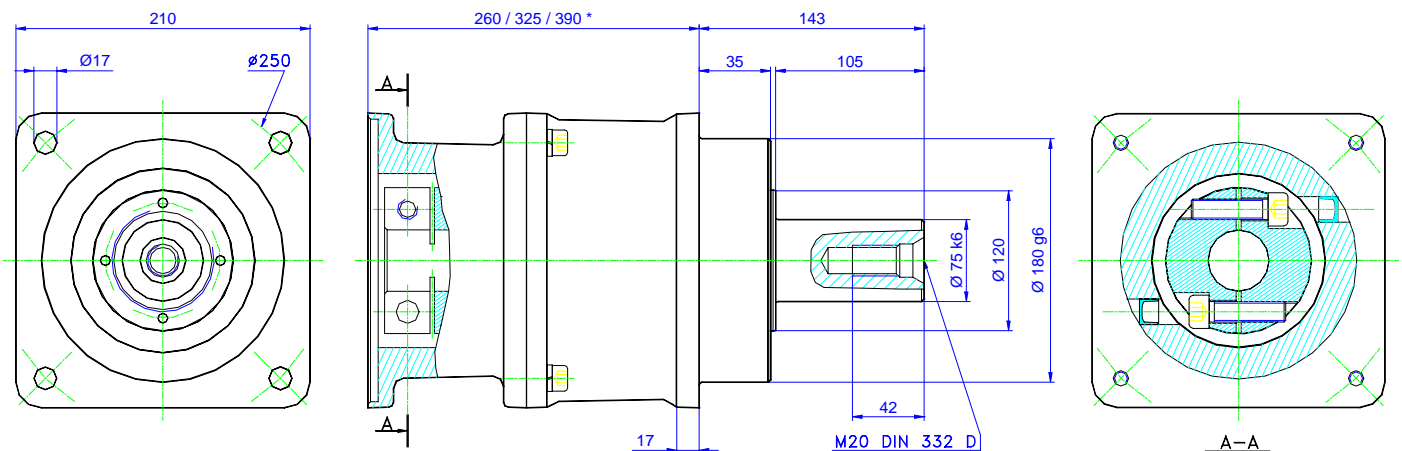
(3) On the motorside.

(4) Gear efficiency at rated load.

(5) Load applied in the middle of the output shaft at 300 rpm.

NOTE-- Emergency Stop Torque is 2.5 times Rated Output Torque for 1000 times max during the service life of the gearhead

## Dimensions [mm]



OUTPUT VIEW

INPUT VIEW

M100 - 02/2002

\* Depends on gear ratio and on the motor dimension

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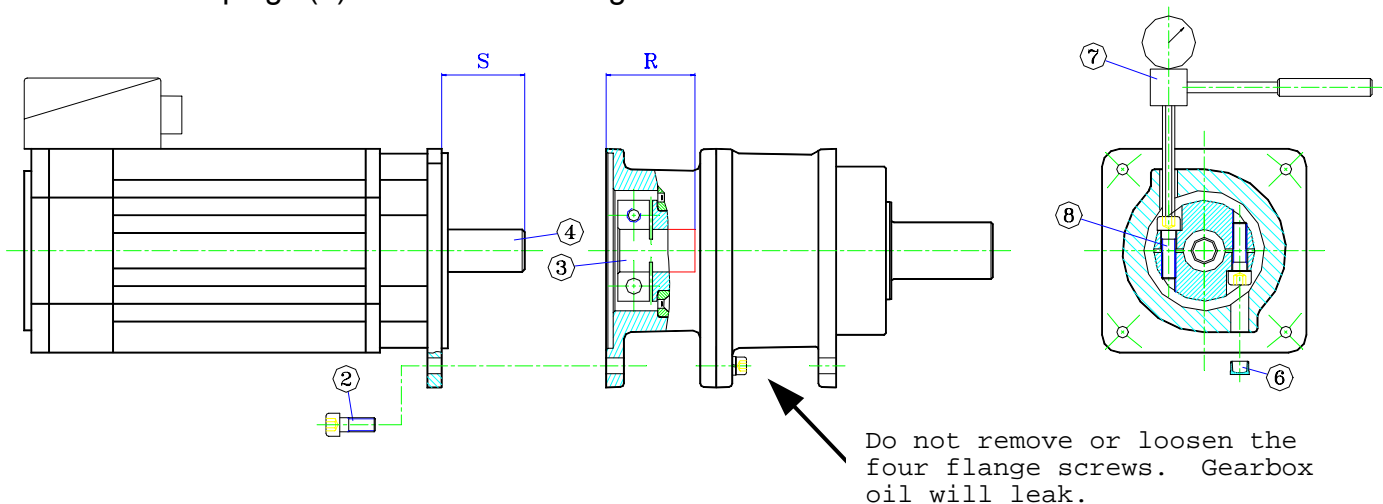
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# ASSEMBLY INSTRUCTIONS: MNT 065 - 080 - 115 - 140 -180 -210 & MNA 042

1. For each motor-gearhead assembly, first check that the dimension {R} is longer than dimension {S}. Dimension {R} is the depth of the input pinion shaft bore (3).
2. Remove the two access hole plugs (6) from the gearhead adaptor flange to enable insertion of a long hexagonal wrench. See the drawing below showing item 7 connecting to item 8 for location of these access plugs. (**Caution--Do not remove the oil fill and drain plugs—these have hex socket heads and are located in the center of the round body that is immediately behind the output flange of the gearhead**). Next, manually rotate the input pinion to align the clamping screws (8) such that the hexagonal wrench can fit into the screw head sockets.
3. Degrease the motor shaft and input pinion bore with an appropriate solvent.
4. Slip the gearhead onto the motor shaft. (**See the helpful hint below.**)
5. Fasten the gearhead to the motor using the 4 screws (2). Apply a low tightening torque for this initial fitting.
6. By means of a torque wrench (7) inserted in the flange access holes, tighten the 2 input pinion clamping screws (8) with a torque of :  
(16 Nm or 142 Lb-in for MNT 065 and MNT 080)  
(39 Nm or 345 Lb-in for MNA 042, MNT 115 and MNT 140)  
(70 Nm or 620 Lb-in for MNT-180 and MNT-210)
7. Loosen the 4 screws (2) connecting the motor and the gearbox and then final-tighten them (**important for alignment**).
8. Insert the 2 plugs (6) into the radial flange holes.



**HELPFUL HINT :** It may be easier to assemble with the motor and gearhead in a vertical position. A thick piece of wood with a hole for the gearhead output shaft can work well. Use caution to prevent the assembly from tipping on its side.

1- 2002



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