

# NEW NMRV-POWER



*New performances:*

Size	<i>M2 nominal (@ 1.400 rpm)</i>	<i>M2 Δmax</i>
NMRV-P63	168 Nm	+5,0%
NMRV-P75	247 Nm	+7,0%
NMRV-P90	432 Nm*	+5,1%
NMRV-P110	700 Nm*	+10,0% / -4,3%

\* = to be confirmed  
within end of 2009



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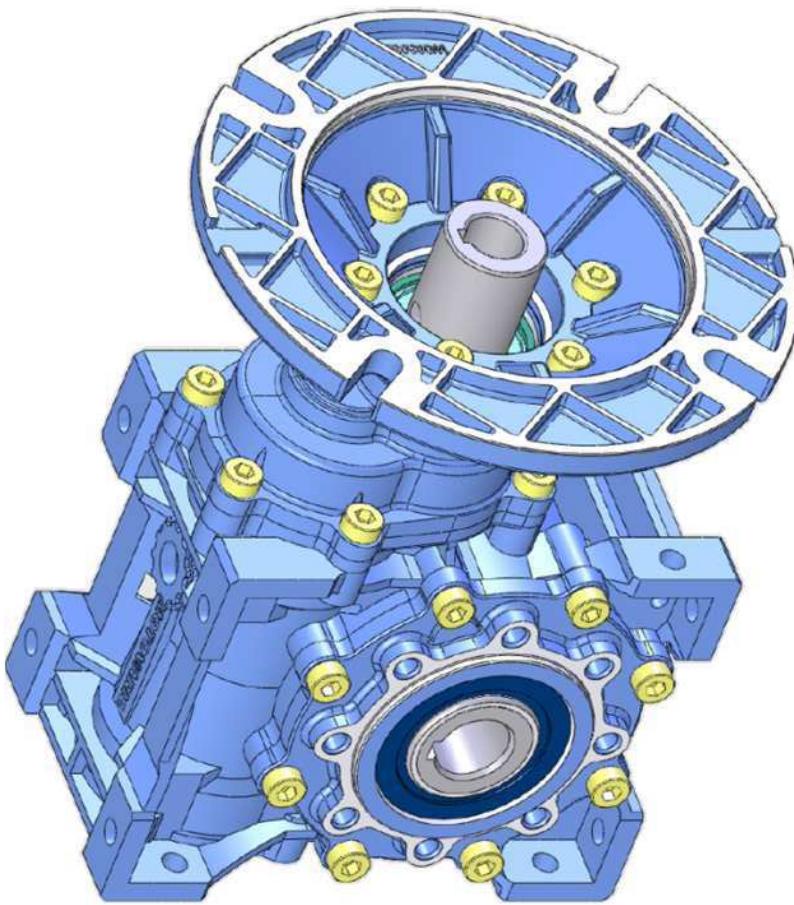
# NEW NMRV-POWER / HW



New performances:

Size	M2 nominal (@ 1.400rpm)	M2 Δmax
NMRV-P63/HW	280 Nm	+25%
NMRV-P75/HW	440 Nm	+25%
NMRV-P90/HW	730 Nm*	+25%
NMRV-P110/HW	1100 Nm*	+25%

\* = to be confirmed  
within end of 2009



$$I_{\text{tot Power}} = 22,08 \div 1.083^{\#}$$

$$I_{\text{tot}} = 22,50 \div 300$$



# NEW NMRV-POWER 063 / HW

	NMRV/power / HW				PC+NMRV				% M2nom [Nm]			
i	P1 [kW]	M2nom [Nm]	η	i	P1 [kW]	M2nom [Nm]	η	P1 [kW]	M2nom [Nm]	η	%	
22,1	1,49	186	83%	-	-	-	-	-	-	-	-	
29,0	1,26	204	82%	3*10=30	1,14	185	80%	+10,9%	+10,3%	+3,1%	-	
35,6	1,08	213	81%	-	-	-	-	-	-	-	-	
38,6	0,99	204	78%	-	-	-	-	-	-	-	-	
40,9	0,77	175	81%	-	-	-	-	-	-	-	-	
44,2	0,89	202	75%	3*15=45	0,81	187	76%	+10,5%	+7,8%	-0,9%	-	
47,5	0,85	214	78%	-	-	-	-	-	-	-	-	
54,5	0,77	221	77%	-	-	-	-	-	-	-	-	
57,9	0,76	221	74%	3*20=60	0,61	181	73%	+25,0%	+21,8%	+1,7%	-	
71,3	0,66	235	73%	-	-	-	-	-	-	-	-	
77,2	0,59	219	71%	3*25=75	0,47	169	70%	+24,7%	+29,8%	+1,7%	-	
81,8	0,6	242	73%	-	-	-	-	-	-	-	-	
88,3	0,56	216	64%	3*30=90	0,53	210	64%	+4,8%	+3,1%	+0,0%	-	
95,0	0,53	238	69%	-	-	-	-	-	-	-	-	
109,1	0,49	249	69%	-	-	-	-	-	-	-	-	
118,1	0,44	254	71%	3*40=120	0,39	192	60%	+12,8%	+32,4%	+18,1%	-	
136,4	0,37	229	66%	-	-	-	-	-	-	-	-	
142,5	0,43	254	61%	-	-	-	-	-	-	-	-	
157,5	0,37	270	68%	3*50=150	0,32	181	55%	+15,6%	+49,1%	+23,0%	-	
163,6	0,39	262	60%	-	-	-	-	-	-	-	-	
176,7	0,29	183	52%	3*60=180	0,26	165	52%	+13,0%	+10,8%	-0,7%	-	
196,9	0,28	247	65%	-	-	-	-	-	-	-	-	
218,2	0,31	253	55%	-	-	-	-	-	-	-	-	
236,3	0,3	284	59%	3*80=240	0,18	137	47%	+66,9%	+107,3%	+26,7%	-	
272,7	0,24	230	51%	-	-	-	-	-	-	-	-	
315,0	0,23	267	54%	3*100=300	0,15	128	42%	+53,4%	+108,3%	+29,5%	-	
393,8	0,18	241	50%	-	-	-	-	-	-	-	-	
433,3	0,15	240	53%	-	-	-	-	-	-	-	-	
472,5	0,15	219	46%	-	-	-	-	-	-	-	-	
541,7	0,14	251	49%	-	-	-	-	-	-	-	-	
650,0	0,11	226	45%	-	-	-	-	-	-	-	-	
787,5	0,08	151	35%	-	-	-	-	-	-	-	-	
866,7	0,07	167	39%	-	-	-	-	-	-	-	-	
1083,3	0,06	156	35%	-	-	-	-	-	-	-	-	



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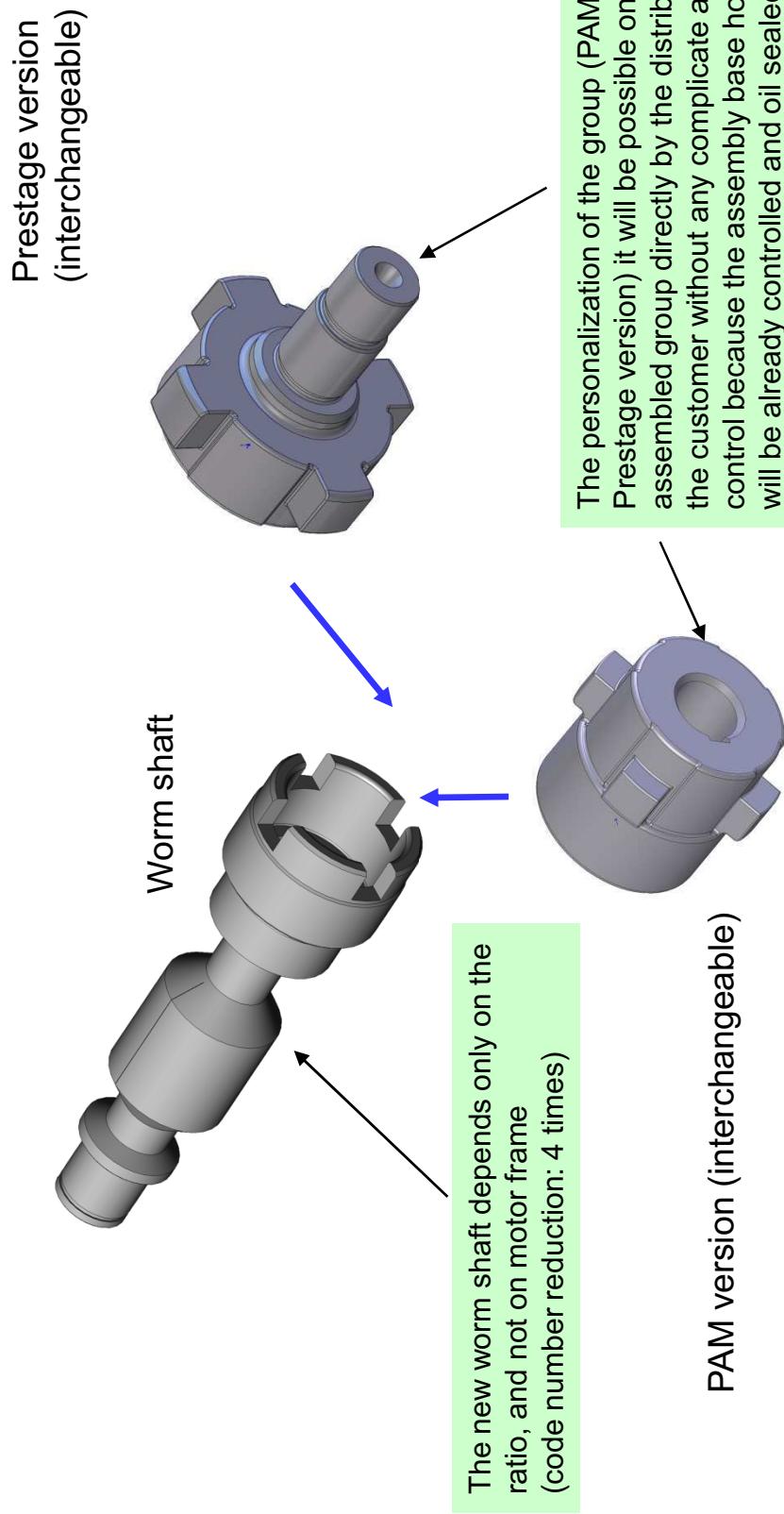
# NEW NMRV-POWER 075 / HW

i	NMRV/power / HW				PC+NMRV				% M2nom [Nm]			
	P1 [kW]	M2nom [Nm]	η	i	P1 [kW]	M2nom [Nm]	η	P1 [kW]	M2nom [Nm]	η	M2nom [Nm]	η
22,1	2,10	261	82%	-	-	-	-	-	-	-	-	-
29,0	1,60	257	82%	3*10=30	1,64	270	81%	-2,4%	-4,7%	-	-	1,9%
35,6	1,11	220	81%	-	-	-	-	-	-	-	-	-
38,6	1,42	296	79%	-	-	-	-	-	-	-	-	-
40,9	0,77	174	81%	-	-	-	-	-	-	-	-	-
44,2	1,37	318	77%	3*15=45	1,18	280	78%	16,5%	13,7%	-0,8%	-	-
47,5	1,11	283	79%	-	-	-	-	-	-	-	-	-
54,5	0,77	225	78%	-	-	-	-	-	-	-	-	-
57,9	1,16	349	76%	3*20=60	0,93	285	75%	24,4%	22,3%	1,8%	-	-
71,3	1,02	373	75%	-	-	-	-	-	-	-	-	-
77,2	0,97	372	72%	3*25=75	0,72	266	72%	33,9%	39,7%	0,3%	-	-
81,8	0,77	321	74%	-	-	-	-	-	-	-	-	-
88,3	0,86	344	67%	3*30=90	0,74	306	67%	15,5%	12,3%	0,1%	-	-
95,0	0,87	403	71%	-	-	-	-	-	-	-	-	-
109,1	0,77	407	71%	-	-	-	-	-	-	-	-	-
115,8	0,74	376	65%	3*40=120	0,58	293	62%	28,3%	28,3%	4,7%	-	-
136,4	0,55	346	68%	-	-	-	-	-	-	-	-	-
142,5	0,65	403	64%	-	-	-	-	-	-	-	-	-
154,4	0,58	368	60%	3*50=150	0,46	273	58%	26,5%	34,8%	3,1%	-	-
163,6	0,60	422	63%	-	-	-	-	-	-	-	-	-
176,7	0,47	308	55%	3*60=180	0,39	262	55%	21,8%	17,5%	-0,5%	-	-
196,9	0,44	391	67%	-	-	-	-	-	-	-	-	-
218,2	0,48	413	58%	-	-	-	-	-	-	-	-	-
236,3	0,44	439	62%	3*80=240	0,27	215	49%	62,5%	104,2%	27,8%	-	-
272,7	0,38	376	53%	-	-	-	-	-	-	-	-	-
315,0	0,36	441	57%	3*100=300	0,23	210	45%	56,5%	109,9%	27,7%	-	-
393,8	0,28	397	52%	-	-	-	-	-	-	-	-	-
433,3	0,15	254	56%	-	-	-	-	-	-	-	-	-
472,5	0,24	375	49%	-	-	-	-	-	-	-	-	-
541,7	0,15	289	51%	-	-	-	-	-	-	-	-	-
650,0	0,15	327	48%	-	-	-	-	-	-	-	-	-
787,5	0,11	232	38%	-	-	-	-	-	-	-	-	-
866,7	0,11	289	43%	-	-	-	-	-	-	-	-	-
1083,3	0,09	238	37%	-	-	-	-	-	-	-	-	-



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# The New NMRV-POWER: Worm shaft

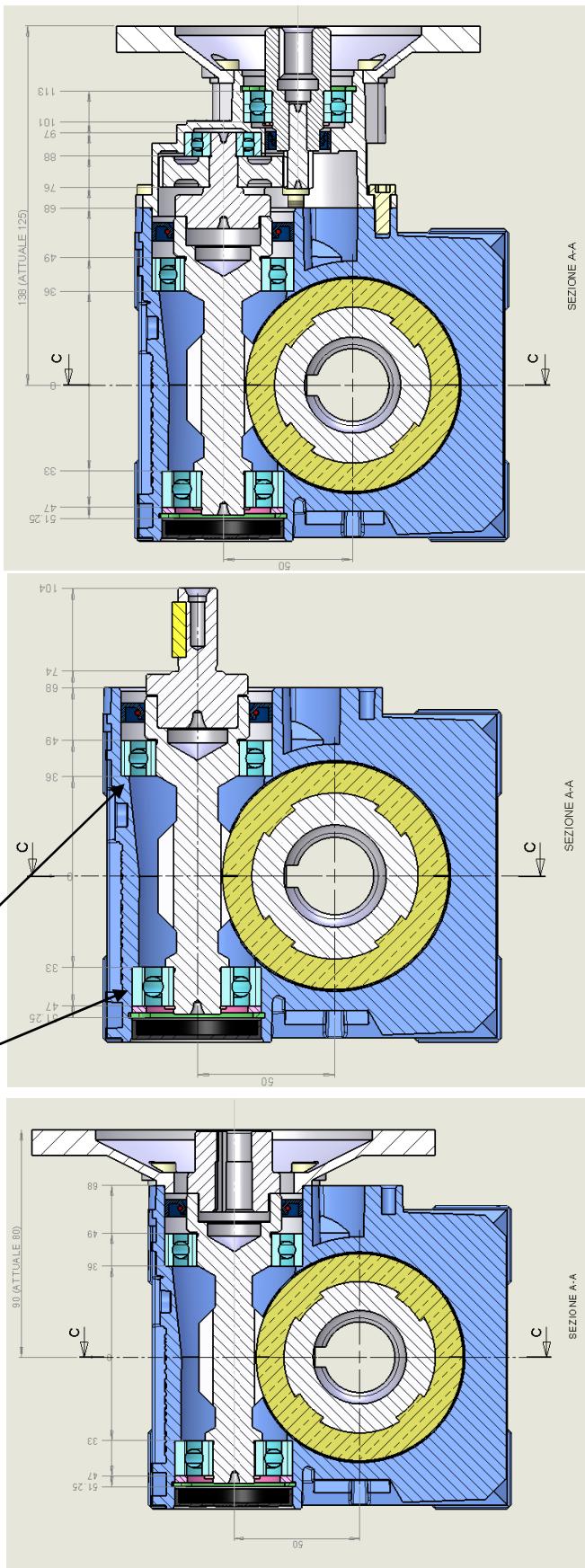


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## The New NMRV-POWER: Layout example

Floating bearing

Fixed bearing



PRE-STAGE VERSION

Input shaft VERSION

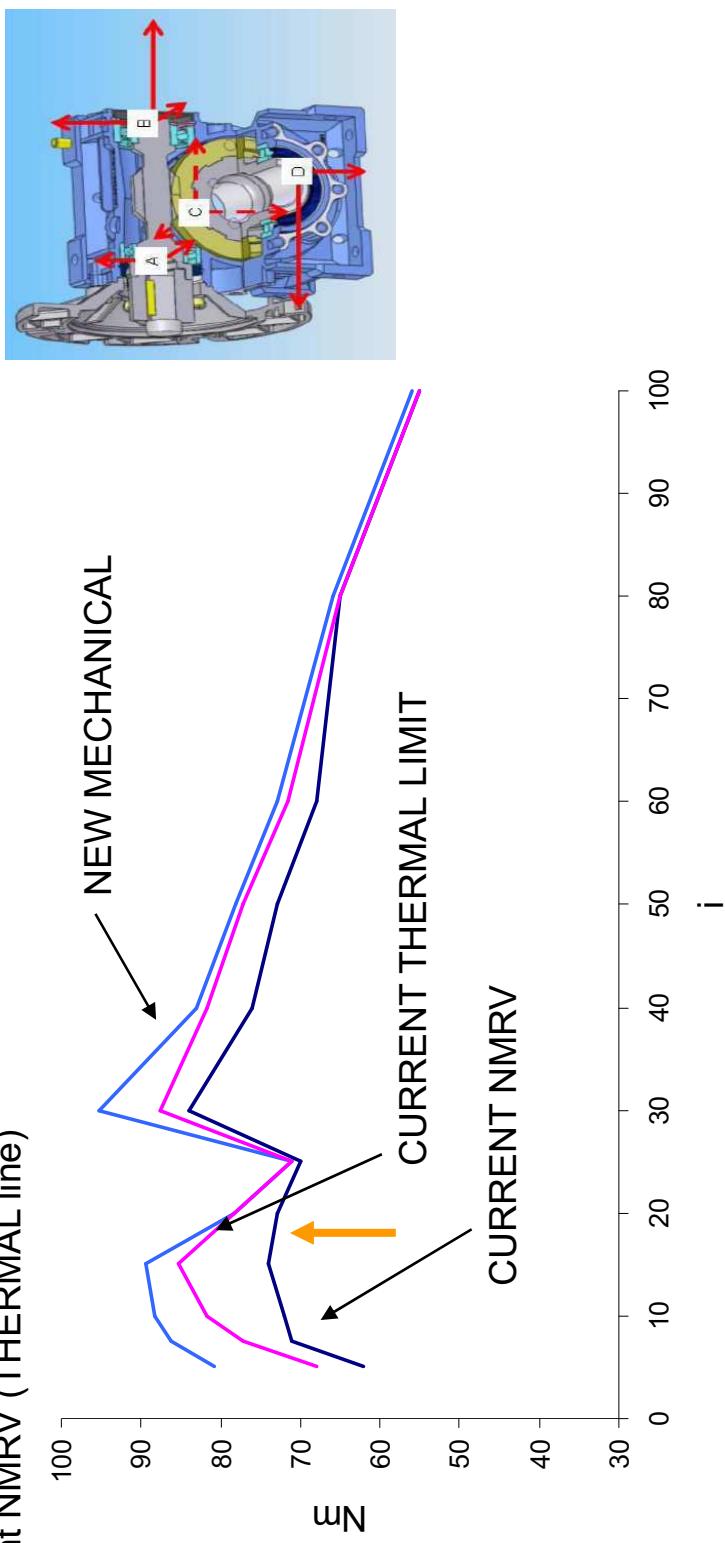
PAM VERSION



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## The New NMRV-POWER : Performance improvements

The new worm gearbox use nickel bronze on worm gear (as in NMRV restyling), with the same centre distances and machining tools. Respect actual catalogue performances, this improve wear lifetime of about 10% (MECHANICAL line). With physical tests and theoretical calculations we defined the thermal power limit on current NMRV (THERMAL line)



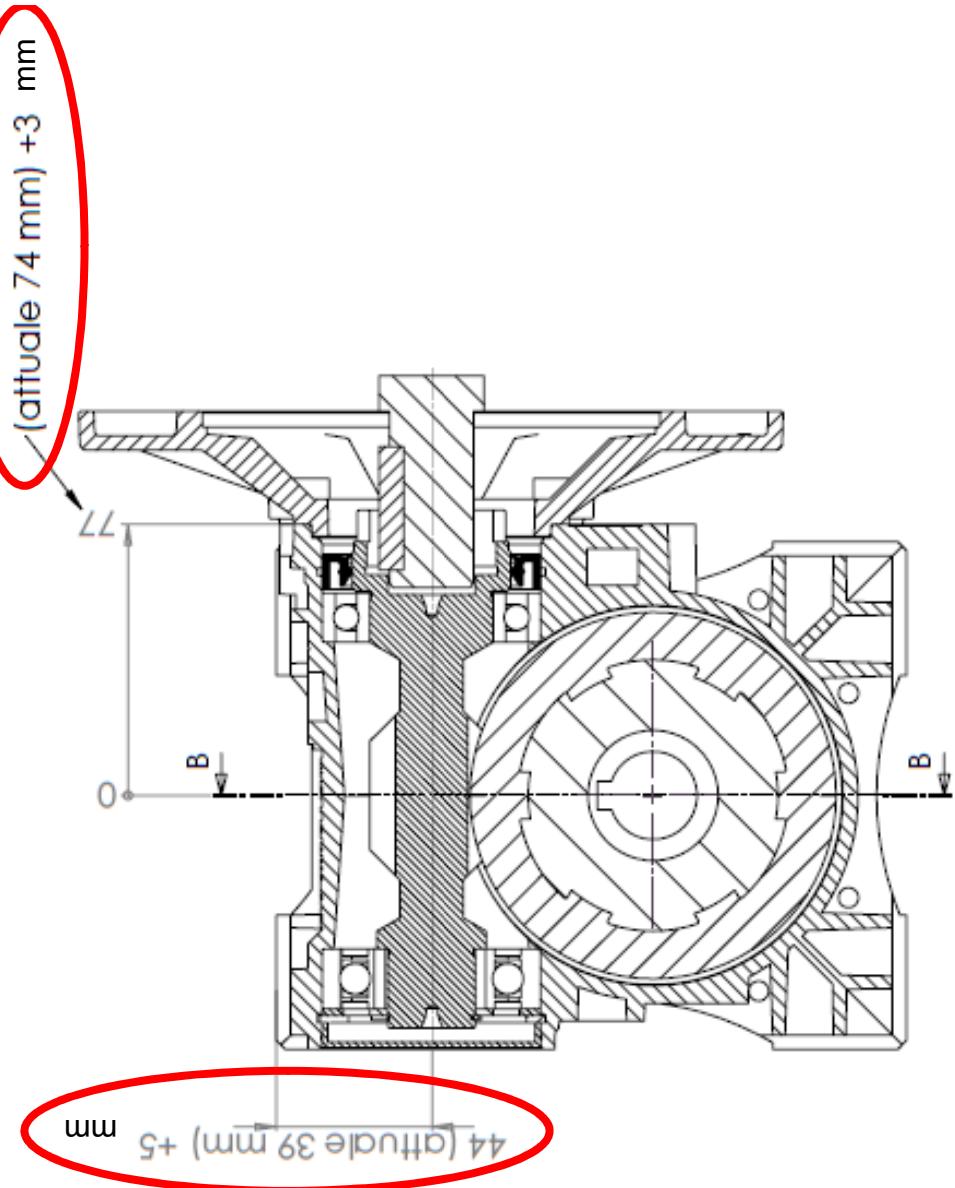
In new worm gearbox the goal is to go over these limits up to new mechanical limit with

- New housing design, for maximize thermal exchange
- Oil characteristics, for maximize efficiency
- Worm/Worm gear surface improvements



# NEW NMRV-POWER 063

## FINAL DIMENSIONS



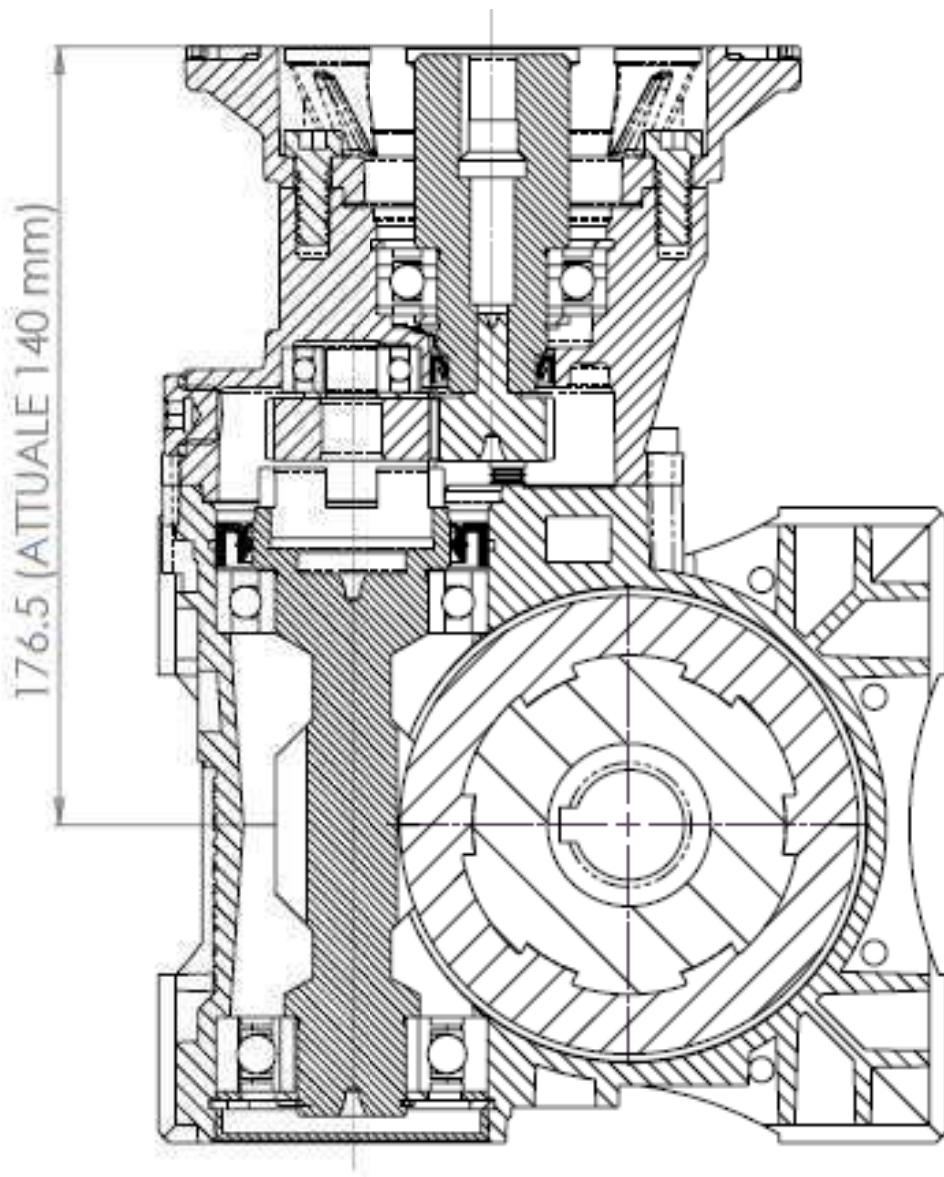
**PAM 90B5**



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# NEW NMRV-POWER 063 / HW63

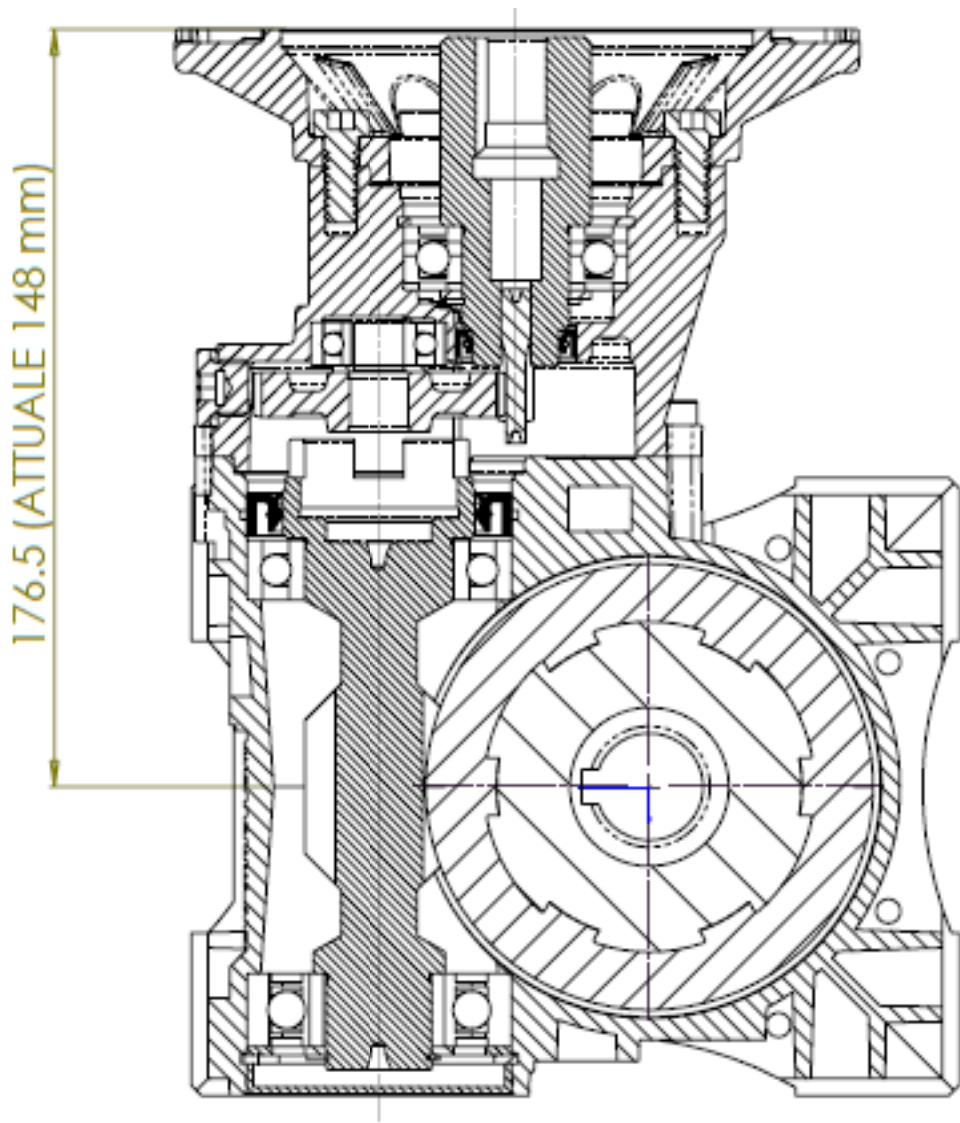
## FINAL DIMENSIONS



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# NEW NMRV-POWER 063 / HW71

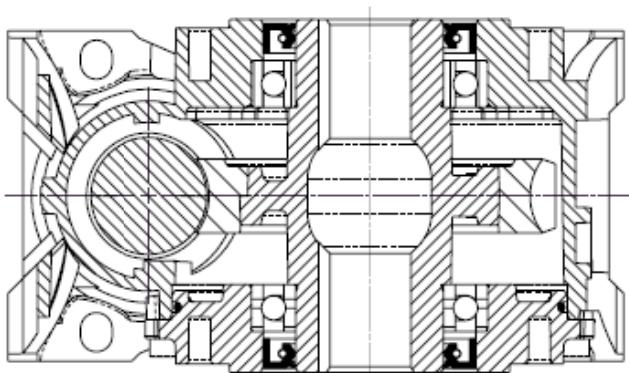
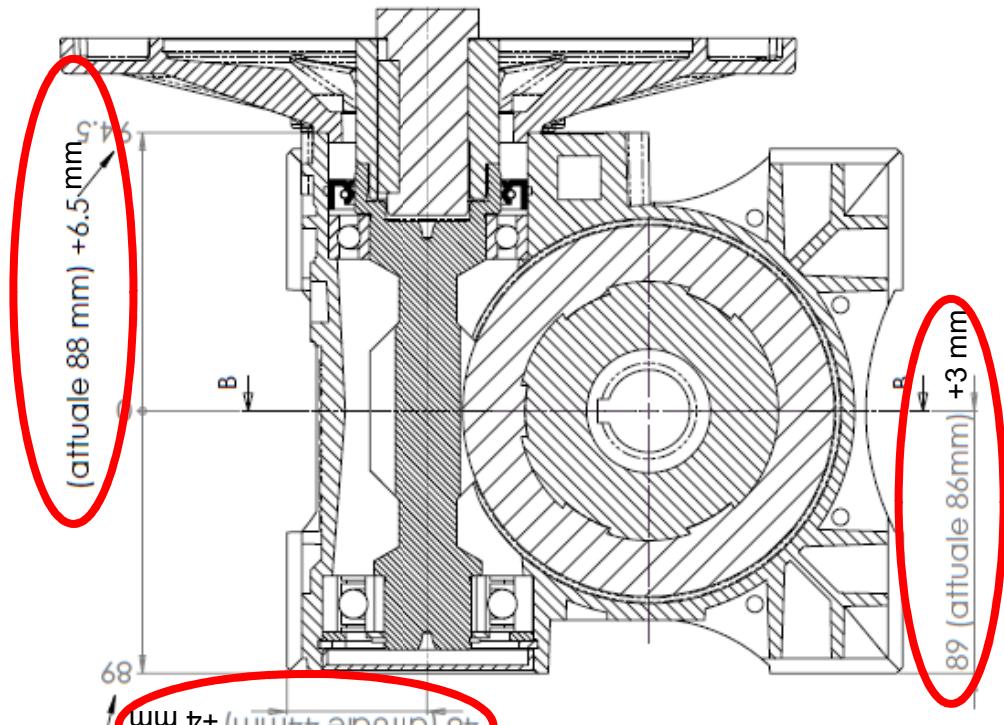
## FINAL DIMENSIONS



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# NEW NMRV-POWER 075

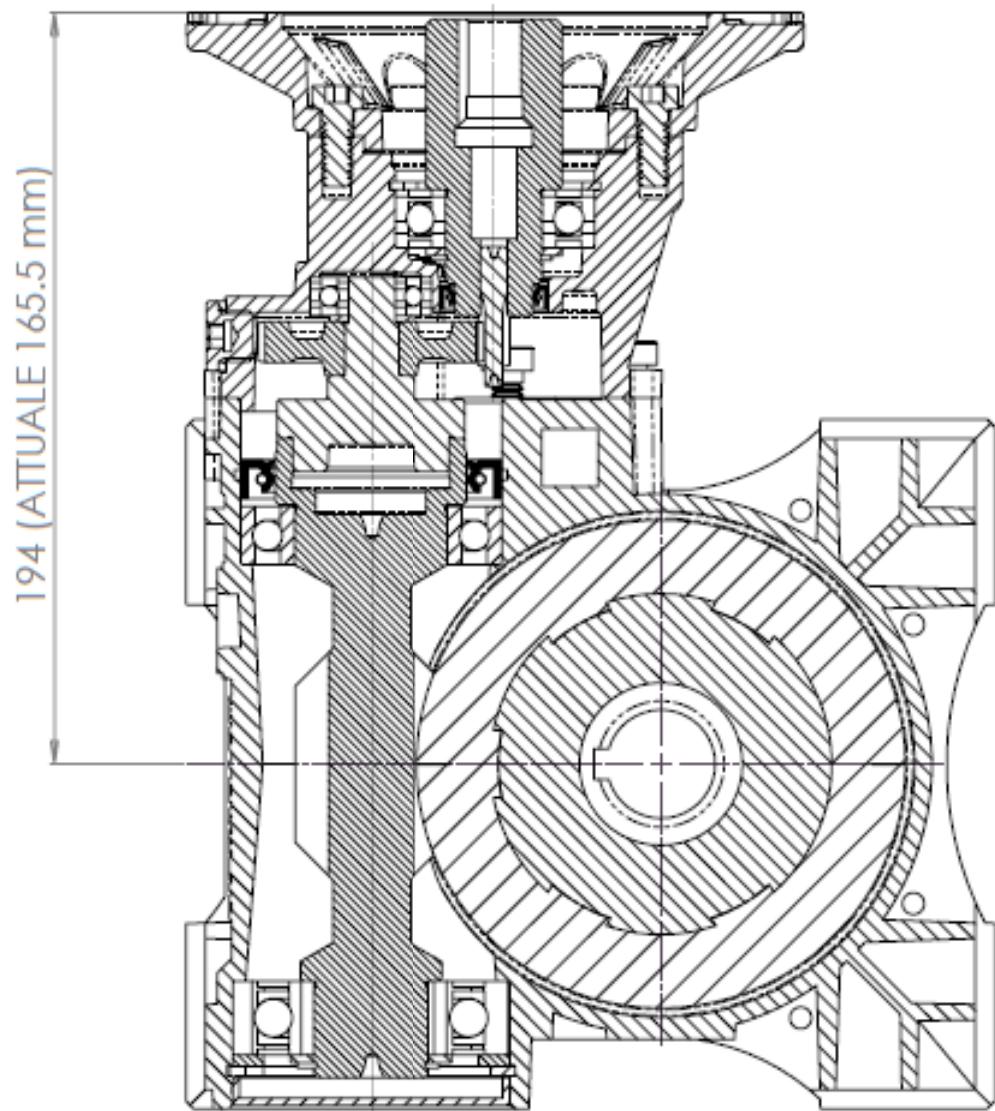
## FINAL DIMENSIONS



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# NEW NMRV-POWER 075 / HW71

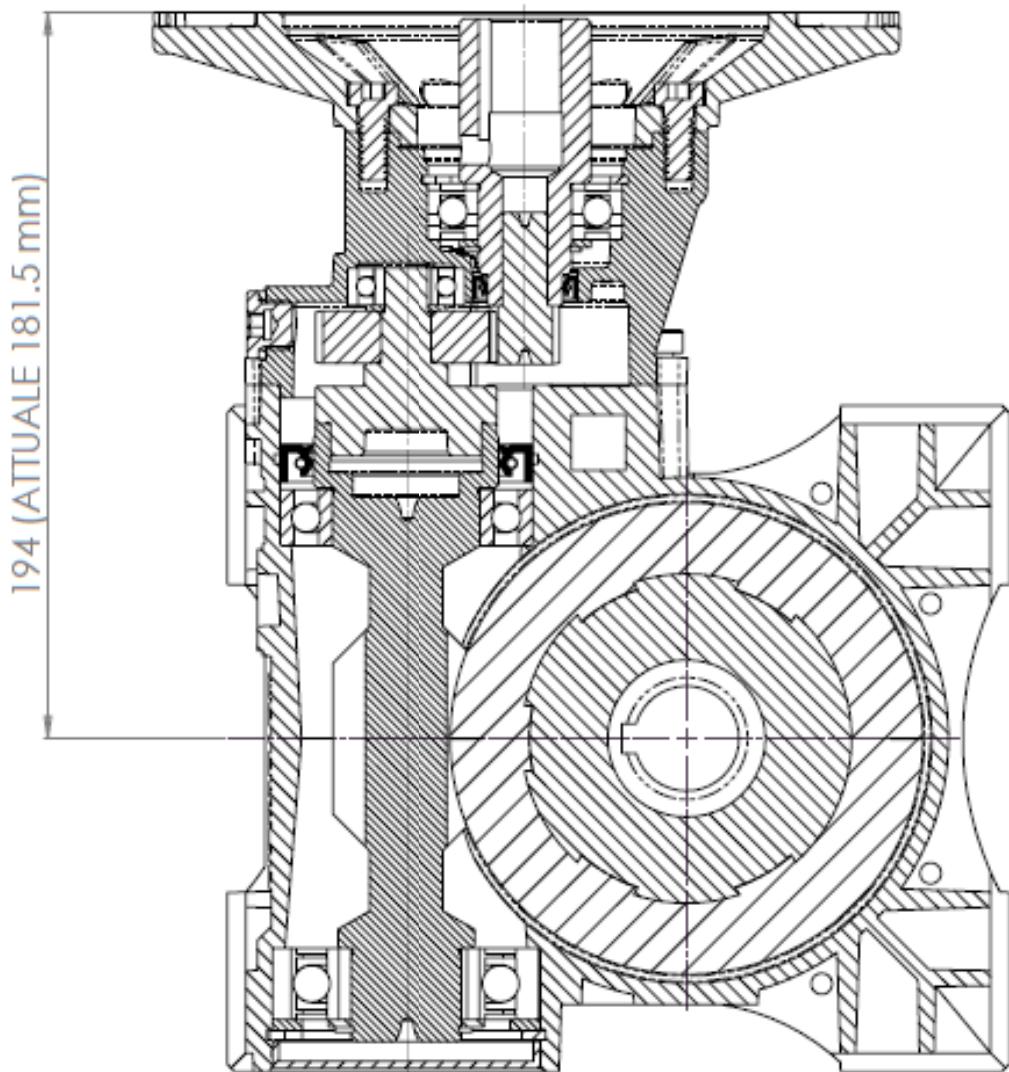
## FINAL DIMENSIONS



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# NEW NMRV-POWER 075 / HW80

## FINAL DIMENSIONS

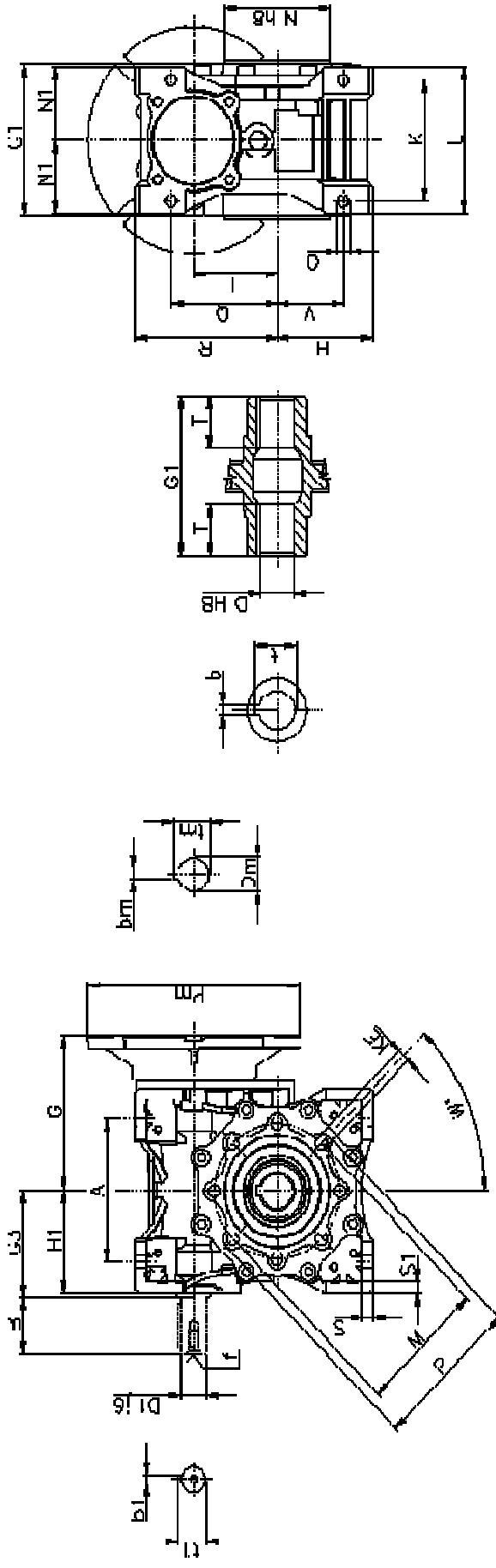


+ 12.5 mm



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# NEW NMRV-POWER



A	B	D	D1	G	G1	G3	H	H1	I	K	KE	L	M	N	N1	O	P	Q	R	S	S1	T	V	W	b	t	b1	t1	f	~Kg	
<b>063</b>	100	40	25 (28)	19	<b>109</b>	112	75	72	72	63	85	M8*14(8)	103	95	80	53	8,5	110	80	<b>107</b>	8	8	36	50	45°	8 (8)	28,3 (31,3)	6	21,5	M6	6,2
<b>075</b>	120	50	28 (35)	24	<b>126,5</b>	120	90	86	<b>89</b>	75	M8*14(8)	112	115	95	56	<b>11</b>	<b>131</b>	93	<b>123</b>	10	<b>13</b>	40	60	45°	8 (10)	31,3 (38,3)	8	27	M8	9	
<b>090</b>	140	50	35 (38)	24	<b>145</b>	140	108	103	103	90	100	M10*18(8)	130	130	110	67	13	<b>152</b>	102	<b>144</b>	11	11	45	70	45°	10 (10)	38,3 (41,3)	8	27	M8	13

New dimension - Different from NMRV

Due to higher performance bearings



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