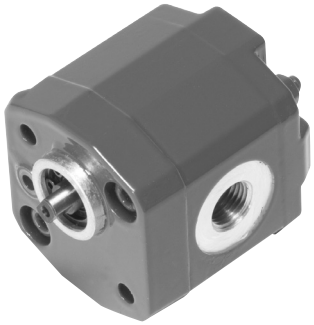

6.1 SIZE 0

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ORDERING CODE

6.1.1 External Gear Pump

PGE100 – 100 – R M K 1 – N – XXXX

External gear pump
Size 0

Displacement

25	0.25 cm³/rev
30	0.30 cm³/rev
50	0.50 cm³/rev
75	0.75 cm³/rev
100	1.00 cm³/rev
125	1.25 cm³/rev
150	1.50 cm³/rev
175	1.75 cm³/rev
200	2.00 cm³/rev

Shaft rotation (viewed from shaft end)

R	Clockwise
L	Anti-clockwise

Shaft

C	Tang
M	Parallel shaft with key Ø 7 mm

Mounting flange

I	2-hole mounting, centering Ø 22 mm
K	Flange, centering Ø 22 mm

Ports

1	Pipe thread ISO 228-1, radial
A	Pipe thread ISO 228-1, axial - discharge port in mounting flange
B	Pipe thread ISO 228-1, axial
9	Special version (only on request)

Seals

N	NBR
V	FPM

Modification number

XXXX	Determined by manufacturer

Not all combinations in the ordering code are possible.
Please refer to 6.1.12 Preferred series or consult HYDAC.

6.1.2 Specifications

Pump size			25	30	50	75	100	125	150	175	200
Geometric displacement		[cm³/rev]	0.25	0.30	0.50	0.75	1.00	1.25	1.50	1.75	2.00
Pressure	Rated	[bar]	170						145	130	130
	Intermittent, max. 20 sec		200						175	160	160
	Peak, max. 0.5 sec		210		230		210		200	180	170
Drive speed	min.	[rpm]	750								
	max.		3500					3000	2500		2000
Approx. weight		[kg]	0.37	0.38	0.39	0.40	0.41	0.43	0.44	0.45	0.47

The continuous and maximum pressures given here only apply to pumps with flange ports. If threaded ports are required, the performance will be reduced. To find out whether a pump with threaded ports can be used in a high pressure application, please consult HYDAC.

6.1.3 Hydraulic fluids

The pump series is designed for use with

HL Hydraulic oil (normal mineral oil) and
HLP Hydraulic oils of the R&O type (Rust and Oxidation inhibitor)

6.1.4 Viscosity range

Normal operating viscosity:
16 - 200 cSt (mm²/s)

6.1.5 Temperature range

Ambient temperature range
-22 to 55 °C

Fluid temperature range
NBR
-25 up to 85 °C
Viton
-15 up to 90 °C

6.1.6 Seals

The pump series is equipped with NBR seals.

If special hydraulic fluids are used, the seal material must be changed if required. Please contact HYDAC.

6.1.7 Filtration

For maximum service life of the pump and system components, the system should be protected from contamination by effective filtration. Cleanliness class:

21/ 18/ 15 to ISO 4406:1999

or

Class 9 to NAS 1638 or cleaner.

At system pressures above 160 bar cleanliness class:

19/17/14 to ISO 4406:1999

or

Class 8 to NAS 1638 is required.

6.1.8 Installation notes

A. Mounting
The pump can be installed horizontally or vertically with the shaft at the top. If the pump is installed on the tank or above the oil level, the distance between the pump inlet and the oil level should not exceed 1 metre.

B. Suction pipe
If the pump is installed above the oil level, particular attention must be paid to the suction pressure. The cross-section of the suction pipe must be equal to or larger than the cross-section of the pump port. The suction pressure must be kept within the values specified.

Minimum suction pressure:
0.8 bar abs.

Maximum suction pressure:
2.2 bar abs.

C. Drive
Use a flexible coupling whenever possible. There must not be any radial or axial forces on the pump shaft. The maximum misalignment of the shafts is 0.2 mm and the angular deviation must be less than 0.2°.

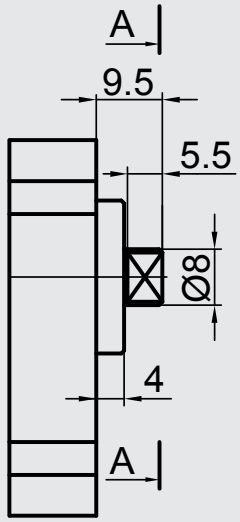
Drive shafts with tang are for direct mounting onto an electric motor or a gearbox. The driver for the tang is not included.

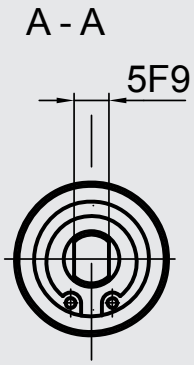
Indirect drives (with gear, chain or belt drives) are not possible.

DIMENSIONS

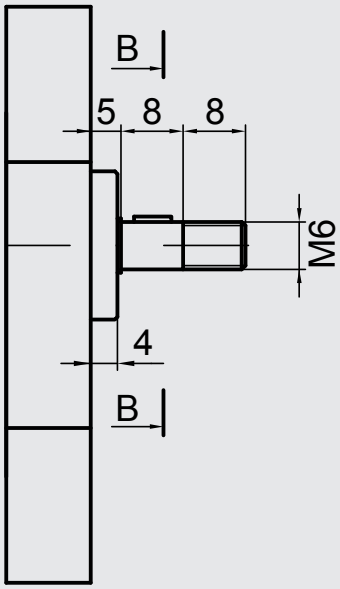
6.1.9 Drive shafts

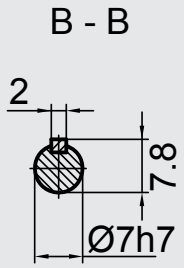
C Tang





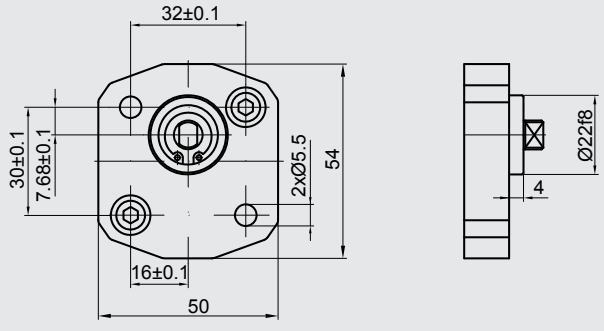
M Parallel shaft with key Ø 7 mm



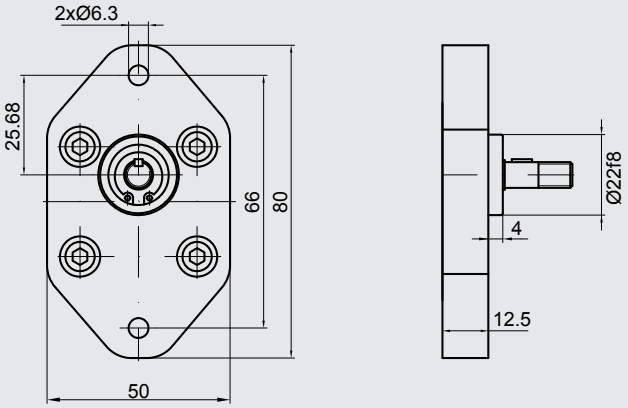


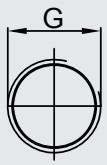
6.1.10 Front cover

I 2-hole mounting
centering Ø 22 mm



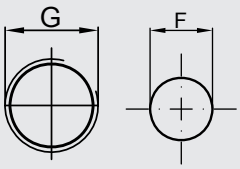
K Flange
centering Ø 22 mm





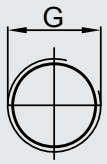
1 Pipe thread
ISO 228/1, radial

Ordering code	Displacement	Outlet G	Inlet G
1	0.25 ... 2 cm³	G 1/4	G 1/4



A Pipe thread ISO 228/1, axial
discharge port in mounting flange

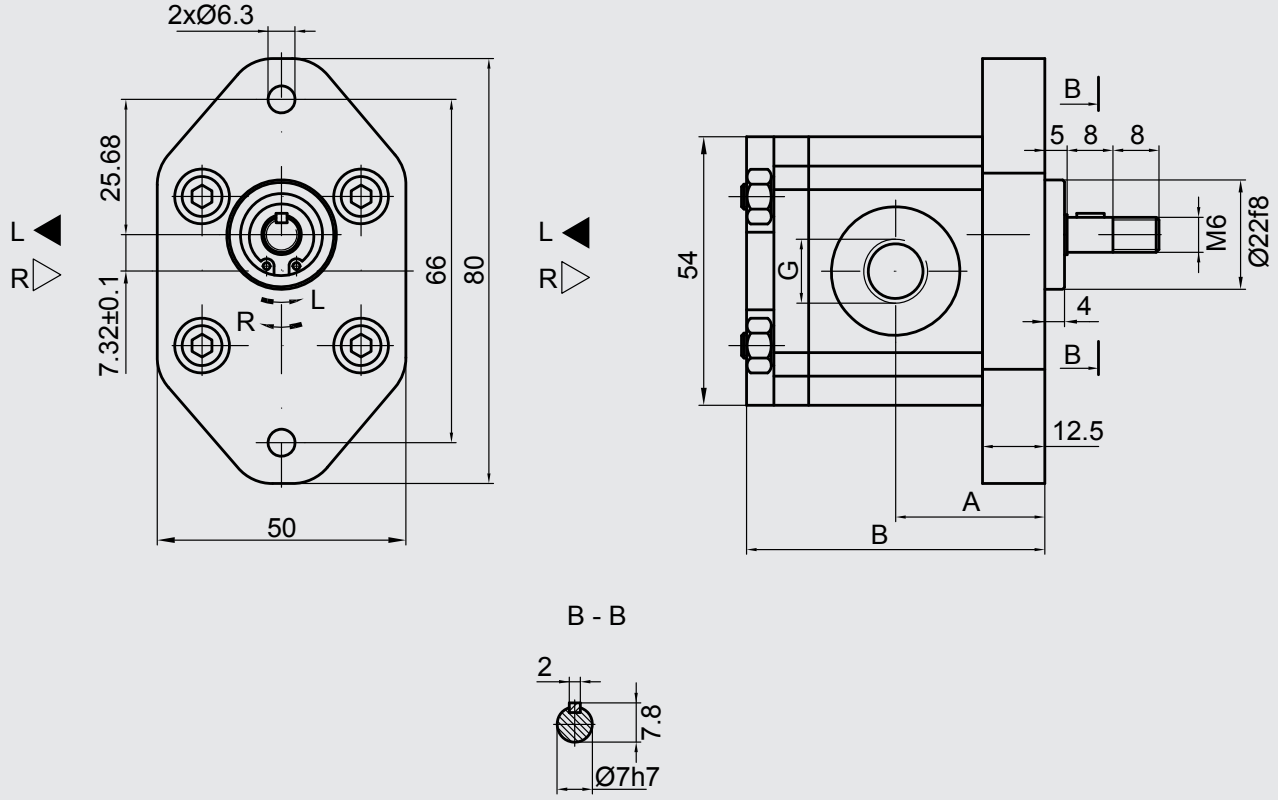
Ordering code	Displacement	Outlet F	Inlet G
A	0.25 ... 2 cm³	Ø 5.5	G 1/4



B Pipe thread
ISO 228/1, axial

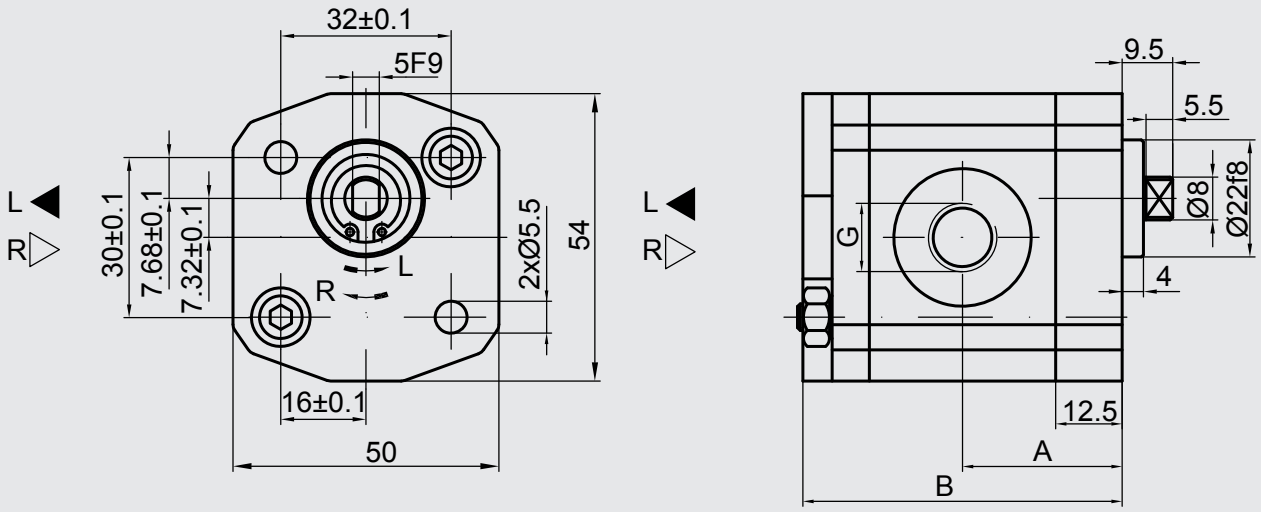
Ordering code	Displacement	Outlet G	Inlet G
B	0.25 ... 2 cm³	G 1/4	G 1/4

PGE100-...-.MK1-N



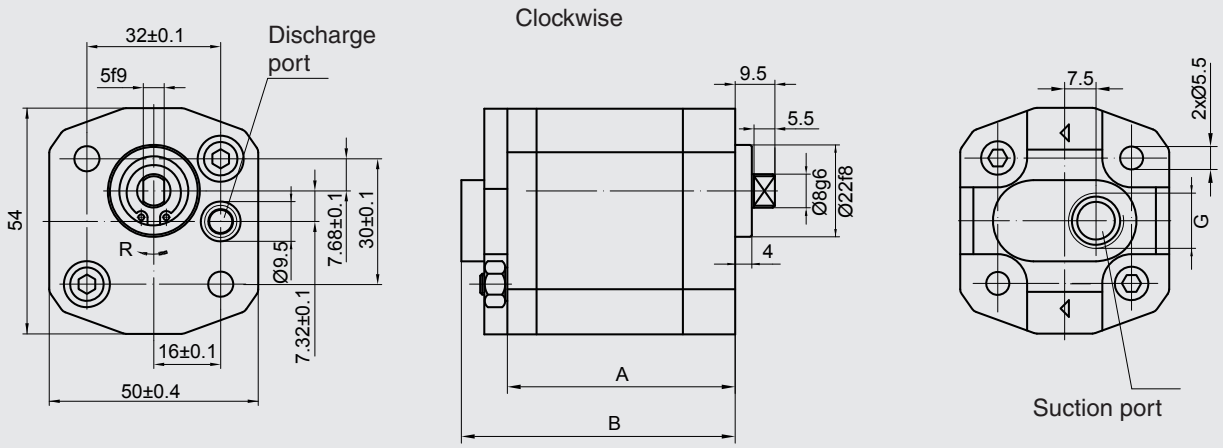
Type	Displacement	Output flow		Rated	Max. speed	Dimensions			
	[cm³/rev]	at 1500 rpm [l/min]	at max. rpm [l/min]	[bar]	n [rpm]	A [mm]	B [mm]	Inlet G	Outlet G
PGE100-25-. MK1-N	0.25	0.3	0.8	170	3500	27.6	55.3	G 1/4	G 1/4
PGE100-30-. MK1-N	0.30	0.4	0.9			27.7	55.7		
PGE100-50-. MK1-N	0.50	0.7	1.6			28.7	57.5		
PGE100-75-. MK1-N	0.75	1.0	2.3			29.9	59.8		
PGE100-100-. MK1-N	1.00	1.4	3.2			31.0	62.0		
PGE100-125-. MK1-N	1.25	1.7	3.4		3000	32.1	64.2		
PGE100-150-. MK1-N	1.50	2.1	3.5	145	2500	33.2	66.5		
PGE100-175-. MK1-N	1.75	2.4	4.1	130		34.3	68.7		
PGE100-200-. MK1-N	2.00	2.8	3.7		2000	35.5	70.9		

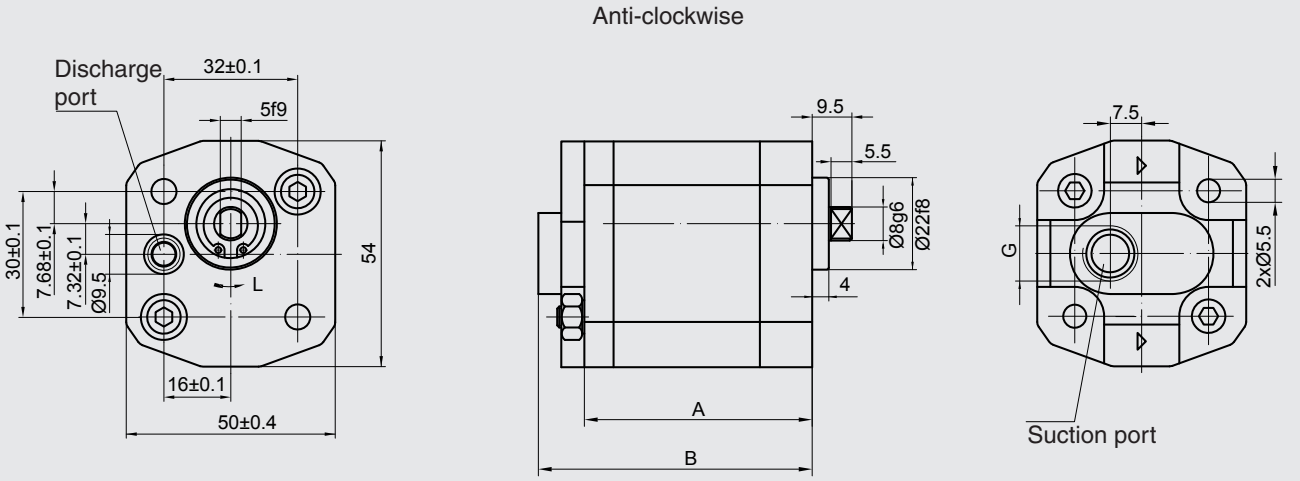
PGE100-...-.CK1-N



Type	Displacement	Output flow		Rated	Max. speed	Dimensions			
	[cm³/rev]	at 1500 rpm [l/min]	at max. rpm [l/min]	[bar]	n [rpm]	A [mm]	B [mm]	Inlet G	Outlet G
PGE100-25-. CK1-N	0.25	0.3	0.8	170	3500	27.6	55.3	G 1/4	G 1/4
PGE100-30-. CK1-N	0.30	0.4	0.9			27.7	55.7		
PGE100-50-. CK1-N	0.50	0.7	1.6			28.7	57.5		
PGE100-75-. CK1-N	0.75	1.0	2.3			29.9	59.8		
PGE100-100-. CK1-N	1.00	1.4	3.2			31.0	62.0		
PGE100-125-. CK1-N	1.25	1.7	3.4		3000	32.1	64.2		
PGE100-150-. CK1-N	1.50	2.1	3.5	145	2500	33.2	66.5		
PGE100-175-. CK1-N	1.75	2.4	4.1	130		34.3	68.7		
PGE100-200-. CK1-N	2.00	2.8	3.7		2000	35.5	70.9		

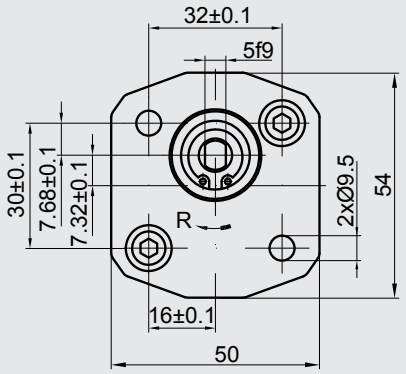
PGE100-...-.CIA-N



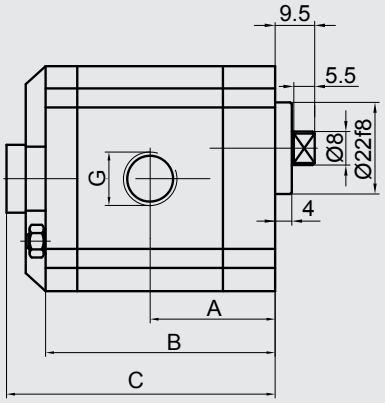


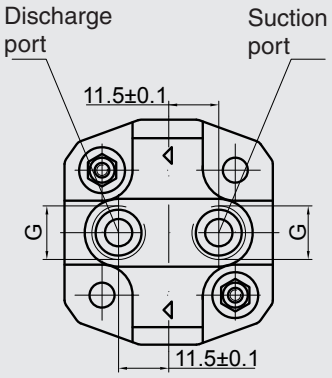
Type	Displacement	Output flow		Rated	Max. speed	Dimensions			
	[cm³/rev]	at 1500 rpm [l/min]	at max. rpm [l/min]	[bar]	n [rpm]	A [mm]	B [mm]	Inlet G	Outlet G
PGE100-25-. CIA-N	0.25	0.3	0.8	170	3500	55.3	60.8	G 1/4	Ø 5.5
PGE100-30-. CIA-N	0.30	0.4	0.9			55.7	61.2		
PGE100-50-. CIA-N	0.50	0.7	1.6			57.5	63.0		
PGE100-75-. CIA-N	0.75	1.0	2.3			59.8	65.3		
PGE100-100-. CIA-N	1.00	1.4	3.2			62.0	67.5		
PGE100-125-. CIA-N	1.25	1.7	3.4		3000	64.2	69.7		
PGE100-150-. CIA-N	1.50	2.1	3.5	145	2500	66.5	72.0		
PGE100-175-. CIA-N	1.75	2.4	4.1	130		68.7	74.2		
PGE100-200-. CIA-N	2.00	2.8	3.7		2000	70.9	76.4		

PGE100-...-.CIB-N

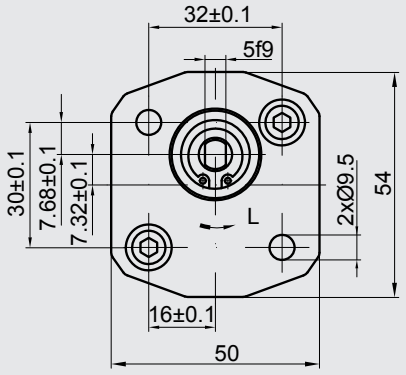


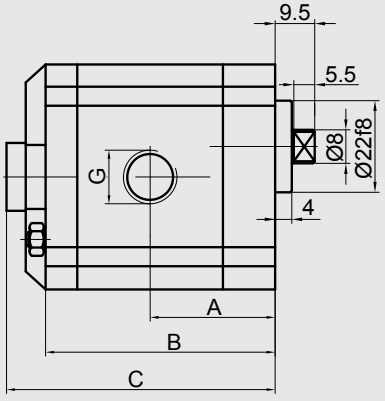
Clockwise

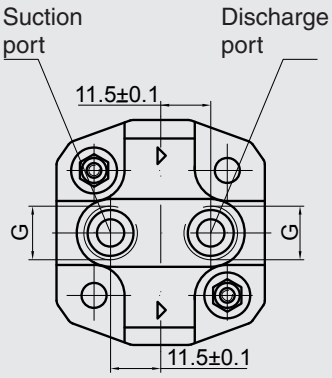




Anti-clockwise







Type	Displacement	Output flow		Rated	Max. speed	Dimensions				
	[cm³/rev]	at 1500 rpm [l/min]	at max. rpm [l/min]	[bar]	n [rpm]	A [mm]	B [mm]	C [mm]	Inlet G	Outlet G
PGE100-25-. CIB-N	0.25	0.3	0.8	170	3500	27.6	55.3	60.8	G 1/4	G 1/4
PGE100-30-. CIB-N	0.30	0.4	0.9			27.7	55.7	61.2		
PGE100-50-. CIB-N	0.50	0.7	1.6			28.7	57.5	63.0		
PGE100-75-. CIB-N	0.75	1.0	2.3			29.9	59.8	65.3		
PGE100-100-. CIB-N	1.00	1.4	3.2			31.0	62.0	67.5		
PGE100-125-. CIB-N	1.25	1.7	3.4		3000	32.1	64.2	69.7		
PGE100-150-. CIB-N	1.50	2.1	3.5	145	2500	33.2	66.5	72.0		
PGE100-175-. CIB-N	1.75	2.4	4.1	130		34.3	68.7	74.2		
PGE100-200-. CIB-N	2.00	2.8	3.7		2000	35.5	70.9	76.4		