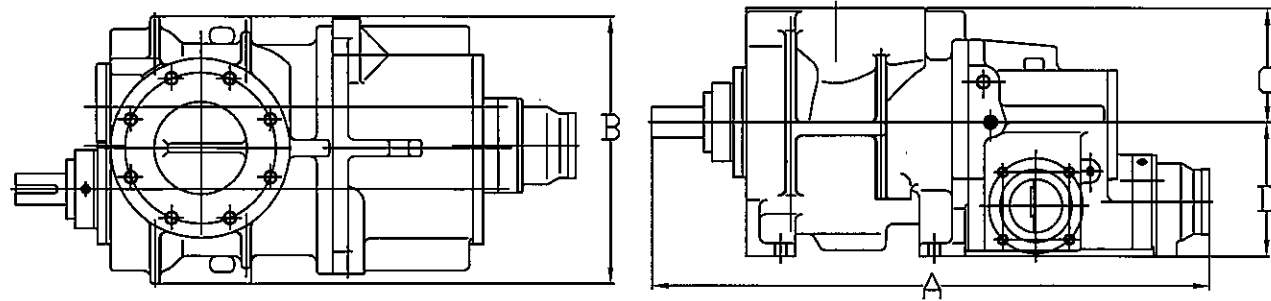


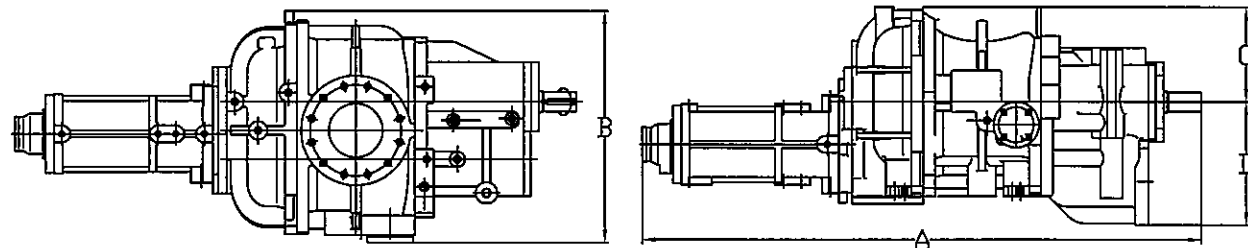
GB SERIES



GB Series Approximate dimension and weight

Model		11S	13S	13L	16S	16L
A	(in)		28.97		34.00	
B	(in)	Consult	13.53		16.40	
C	(in)	KOBELCO	5.80		7.00	
D	(in)		6.80		8.20	
Weight	(LB)	660	650	700	950	1000

NB SERIES



NB Series Approximate dimension and weight

Model		19M	19L	19LL	23M	23L	23LL	28M	28L	28LL	32M	32L	32LL
A	(in)	61.00	64.55	66.91	73.98	78.35	81.92	84.72	89.84	93.78	96.22	101.89	113.16
B	(in)		27.24			30.85			36.83			40.93	
C	(in)		11.02			13.78			16.14			17.91	
D	(in)		14.37			17.42			21.46			23.82	
Weight	(LB)	1980	2190	2450	3460	3750	4000	5730	6170	6570	8710	9260	10650

KOBELCO COMPRESSORS

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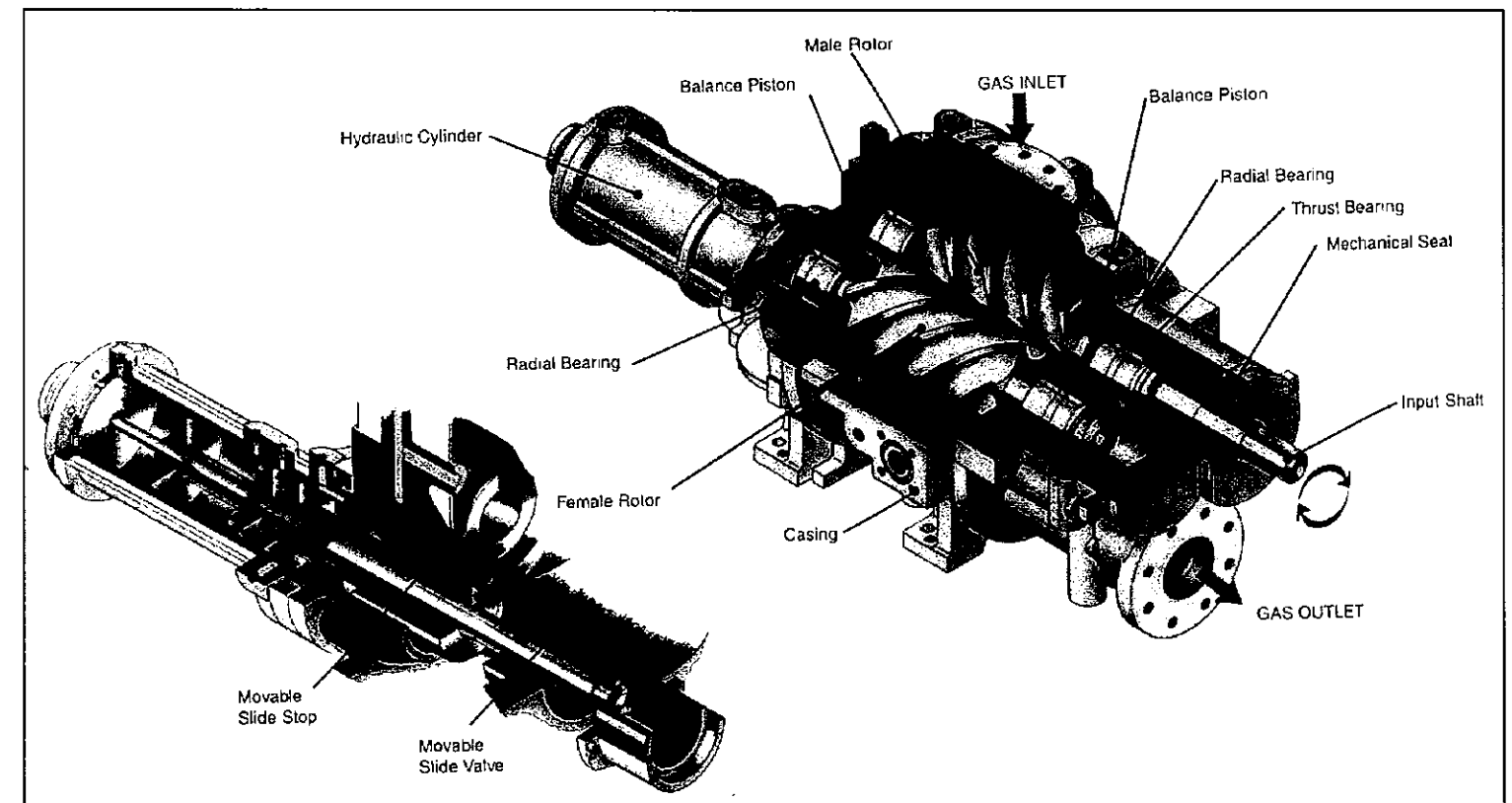
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SUBJECT TO CHANGE WITHOUT NOTICE

R.4 08/09

KOBELCO

NB & GB SERIES SCREW COMPRESSORS



FEATURES

Variable V_i (NB Series)	<ul style="list-style-type: none"> • 4 Step auto or simple manual control (Hydraulically actuated) ($V_i=2.2, 2.9, 3.65 \text{ \& } 5.0$) • Also the patented fixed V_i is available by the simple V_i block
Slide Valve	<ul style="list-style-type: none"> • Stepless capacity control (Hydraulically actuated) (from 100% to around 20% of full load capacity) • With visual position indicator
All Anti-Friction Bearings	<ul style="list-style-type: none"> • No need pre-lube and also main oil pump depending on applications • No yellow metal cage is used (polyamide or steel cage) • Better volumetric efficiency by the small bearing clearance • Smaller BHP by low bearing friction loss
Double Balance Piston (NB Series)	<ul style="list-style-type: none"> • Long bearing life by the patented double balance piston control
Super Rotor	<ul style="list-style-type: none"> • KOBELCO's own patented high efficient Super Rotor (NB Series 5 + 6 & GB Series 4 + 6 Lobe Combination)
Mechanical Seal	<ul style="list-style-type: none"> • John Crane balanced type shaft seal • With an additional oil seal for no leakage after shut down
Other User Friendly Design	<ul style="list-style-type: none"> • Discharge labyrinth seal having the ability to take certain amount of suction liquid without damage • Clock wise rotation as seen from driver, can be directly coupled to any standard engines

VARIABLE VI AND SLIDE VALVE CONTROL

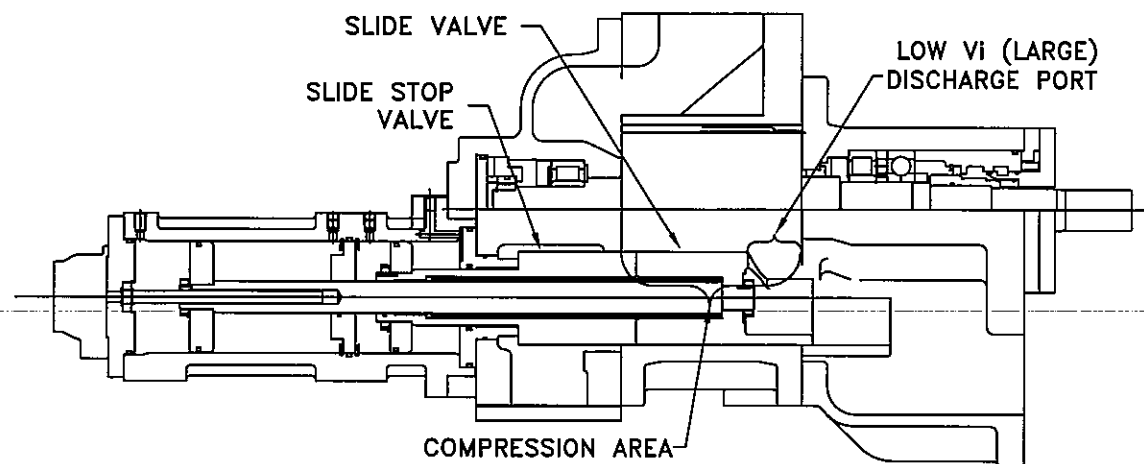


FIG 1 FULL CAPACITY AT LOW VI

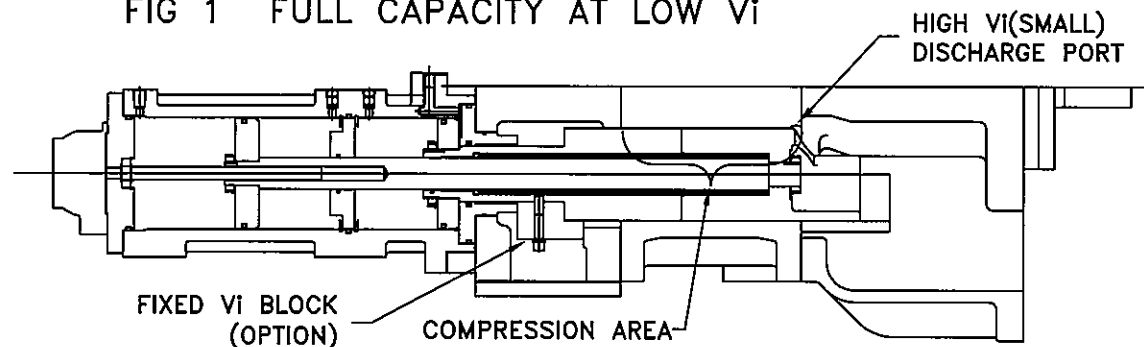


FIG 2 FULL CAPACITY AT HIGH VI

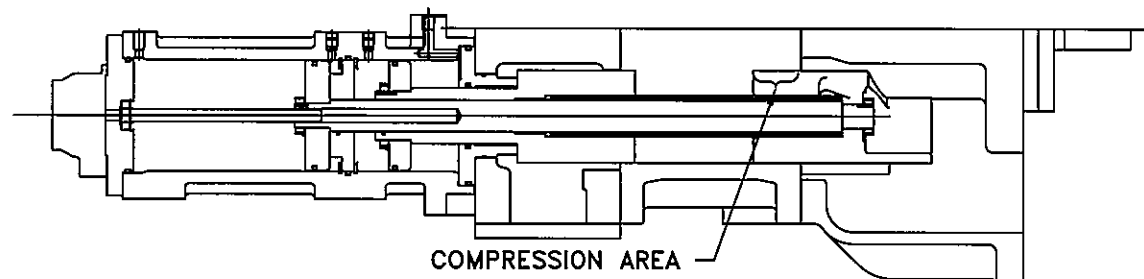


FIG 3 MINIMUM CAPACITY AT LOW VI

Compressor Material

Casing	ASTM A48 CL40 Gray Iron (NB Series) ASTM A48 CL35 Gray Iron (GB Series)
Rotor	AISI 1141 or 1137, Carbon Steel
Bearing	Radial: Cylindrical Roller bearing with polyamide or steel cage Thrust: 4 point contact ball bearing with steel cage (NB series) Angular contact ball bearing with polyamide cage (GB series)
Shaft Seal	John Crane 9B balanced type [Carbon + cast iron] (NB series) John Crane bellow spring balanced type [Carbon + cast iron] (GB series)
O-ring	Neoprene (Viton is available)

GB SERIES COMPRESSOR DATA

Item	Unit	11S	13S	13L	16S	16L
MDWP	psig	350				
MAX. DIS. PRESS (1)	psig	300				
VI	-----	2.5/3.5/5.0				
Male Rotor Diameter, Dm	mm	122.6	147.2	174.4		
Female Rotor Diameter, Df	mm	114.7	137.6	163.1		
Length to Dm Ratio (L/Dm)	-----	1.28	1.12	1.41	1.20	1.57
Swept Volume (CFM)	(3600 rpm)	155	229	286	420	508
	(1800 rpm)	78	115	143	210	254
MAX. SPEED	rpm	6000	5600		4800	
Connection Size Suction	in	Special 2-1/2"	ANSI 300# 4"		ANSI 300# 5"	
Discharge	in	NPT 2"	SPECIAL 2"		SPECIAL 2.5"	
Min. Capacity (2)	%	40	20			
Rotor Inertia WR ² (3)	Lb-ft ²	0.427	0.93	1.17	2.38	3.07
Equivalent Length (3)	ft	366	211	203	91	84

NOTE:

- MAX. INLET PRESSURE --- 100(PSIG)(1)
- MAX. DIS. TEMPERATURE --- 210(*F)
- MAX. BEARING OIL SUPPLY --- 145(*F)
- MIN. SPEED (1) ----- 600(rpm)

(1) DEPENDS ON OPERATING CONDITION

(2) SUCTION FLOW MAY BE ZERO AT FULL UNLOADED SLIDE VALVE POSITION BELOW 1800rpm

(3) DOES NOT INCLUDE A SHAFT COUPLING. THE DESIGN AND SELECTION OF THE SHAFT COUPLING IS THE RESPONSIBILITY OF THE CUSTOMER.

NB SERIES COMPRESSOR DATA

(Model 28MNB & 32MNB were discontinued.)

Item	Unit	19M	19L	19LL	23M	23L	23LL	28M	28L	28LL	32M	32L	32LL
MDWP	psig	400		350	400			350		400			
MAX. DIS.PRESS(1)	psig	300/350		300	300/350			250	300	300/350	250	300	150
VI	-----	Variable Vi											
Male Rotor Diameter, Dm	mm	225.4			278.4			328.8			381.8		
Female Rotor Diameter, Df	mm	191.0			235.9			278.6			323.5		
Length to Dm Ratio (L/Dm)	-----	1.15	1.55	1.82	1.15	1.55	1.88	1.15	1.55	1.85	1.20	1.50	2.25
Swept Volume (CFM)	(3600 rpm)	672	907	1065	1268	1709	2068	2088	2814	3361	3412	4265	6397
	(1800 rpm)	336	453	532	634	854	1034	1044	1407	1680	1706	2133	3199
MAX. SPEED	rpm	5200		4500	4125			3600					
Connection Size Suction	in	Special 6"	ANSI 300# 6"		Special 8"	ANSI 300# 8"	ANSI 300# 10"	Special 10"	ANSI 300# 10"	ANSI 300# 12"	Special 12"	ANSI 300# 12"	ANSI 300# 16"
Discharge	in	ANSI 300# 4"			ANSI 300# 6"			ANSI 300# 8"			ANSI 300# 10"		
VI (STANDARD)	-----	2.2/2.9/3.65/5.0											
VI (OPTION)	-----	-----	-----	1.8/2.2 2.6/3.1	-----	-----	1.7/2.0 2.4/2.7	-----	-----	1.7/2.0 2.4/2.7	-----	-----	1.7/2.0 2.4/2.7
Min. Capacity(2)	%	25					30	25	30	25	35		
Rotor Inertia WR ² (3)	Lb-ft ²	10.4	14.0	16.4	29.8	40	48.5	68.1	91.8	109.5	150.2	187.7	281.1
Equivalent Length (3)	ft	85.8			39.0			23.3			18.9		