

IGC

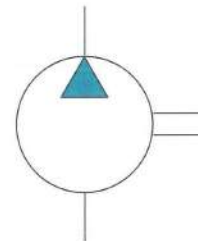
Internal Gear

內嚙合齒輪泵



油壓記號

SYMBOL



型式號碼 / Model Code

IGC - 4F - 32 - R - 20

設計番號 Design No.

回轉方向 (由軸側方向觀之)

Direction of Rotation (View from shaft end)

R: 順時針方向 R: Clockwise

L: 逆時針方向 L: Counterclockwise

排量: c.c./rev Displacement

安裝方式 Mounting Type

F: ISO type flange 法蘭 L: ISO type foot 腳座

E: DIN type flange 法蘭 S: Secondary Pump 多聯式後段泵

系列號碼: Series No.

內嚙合齒輪泵系列 Internal Gear Pump Series

IGC: 系列 最高 175 kgf/cm² Max 175 kgf/cm²

產品特性 / Feature

1. 最高轉速可達2500 rpm
2. 噪音低，提供極佳的操作環境
3. 低脈衝，運轉平順
4. 徑向及軸向壓力補償，效率超高
5. 優異的吸力，作動油黏度範圍廣泛
6. 流量範圍20 to 125 cc/rev
7. 只需低轉速50 rpm，即可達到140kgf/cm²保壓壓力
8. 注塑機伺服節能適用本產品

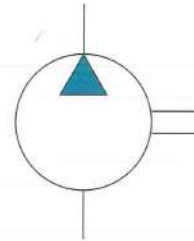
1. Max. speed could be up to 2500 rpm
2. Low noise to provide a comfortable working environment
3. Low pulsation, Smooth rotation.
4. High overall efficiency through axial & radial pressure compensation.
5. Good suction attribute and wide oil viscosity range.
6. Displacement form 20 to 125 cc/rev.
7. High efficiency. 50 rpm can reach 140 kgf/cm² to hold pressure.
8. Servo-Energy saving system for injection molding machine is applicable to IGC series.

IGM, IGH Internal Gear 內嚙合齒輪泵



油壓記號

SYMBOL



型式號碼 / Model Code

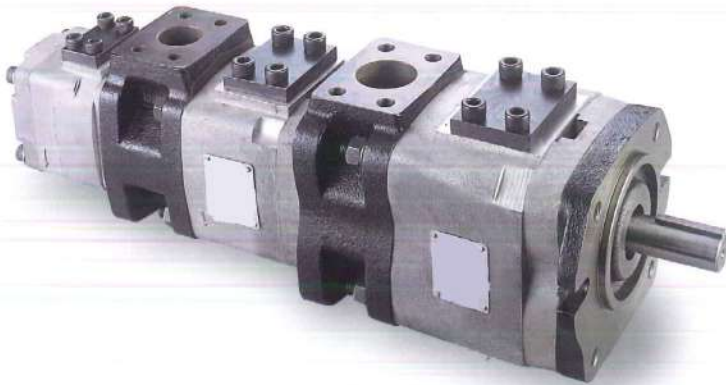
IGH - 4F - 32 - R - 20

設計番號	Design No.
回轉方向 (由軸側方向觀之)	Direction of Rotation (View from shaft end)
R: 順時針方向	R: Clockwise
L: 逆時針方向	L: Counterclockwise
排量: c.c./rev	Displacement
安裝方式	Mounting Type
F: ISO type flange	法蘭 L: ISO type foot 腳座
E: DIN type flange	法蘭 S: Secondary Pump 多聯式後段泵
系列號碼:	Series No.
內嚙合齒輪泵系列	Internal Gear Pump Series
IGH:	
H: 系列, 最高 300 kgf/cm ²	H:Series,Max. 300 kgf/cm ²
IGM:	
M: 系列, 最高 250 kgf/cm ²	M:Series,Max. 250 kgf/cm ²

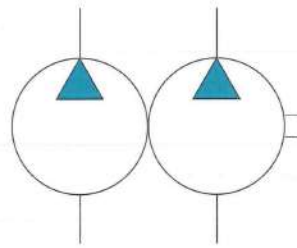
產品特性 / Feature

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. 高壓力, 最高300 kgf/cm². 2. 極靜音, 完全符合低音工作環境要求. 3. 低脈衝, 運轉平順. 4. 徑向及軸向壓力補償, 效率超高 5. 優異的吸力, 作動油黏度範圍廣泛, 6. 流量範圍廣, 從3.5c.c 到 125c.c. 7. 可以多聯式泵浦連結使用, 應用在多重迴路中. | <ol style="list-style-type: none"> 1. High Pressure, max.pressure 300 kgf/cm². 2. Extremely low noise. 3. Low pulsation ,Smooth rotation. 4. High overall efficiency through axial & radial pressure compensation. 5. Good suction attribute and wide oil viscosity range. 6. Displacement from 3.5 to 125 c.c. and multiple stage pumps are available. |
|---|--|

IGM, IGH Internal Gear 内啮合齒輪泵



油壓記號



SYMBOL

型式號碼 / Model Code

IGH - 4E - 32 - R / IGH - 4S - 25 / IGH - 3S - 16

IGH - 4E - 32 - R / IGH - 4S - 25 / IGH - 3S - 16	參照第二個泵	Refer to the secondary Pump
	後泵排量	Displacement of shaft end pump
	後泵系列號碼	Series No. of Secondary Pump
	內啮合齒輪泵系列號碼	Internal gear pump series
	回轉方向 (由軸側方向觀之)	Direction of Rotation (Viewed from shaft end)
	R: 順時針方向	R: Clockwise
	L: 逆時針方向	L: Counterclockwise
	前泵排量	Displacement of shaft end pump
	前泵安裝方式	Mounting type of shaft end pump
	E: 僅限DIN 法蘭型	E: DIN type flange only
	前泵系列號碼	Series No. of shaft end pump
	內啮合齒輪泵系列號碼	Internal Gear Pump Series
	IGH:	
	H: 系列, 最高 300 kgf/cm ² , H:Series, Max. 300 kgf/cm ²	
	IGM:	
	M: 系列, 最高 250 kgf/cm ² , M:Series, Max. 250 kgf/cm ²	
	IGC:	
	C: 系列, 最高 175 kgf/cm ² , C:Series, Max. 175 kgf/cm ²	

說明 / Remark

多聯泵之前端必須為最大流量的泵，若流量相同則前泵必須是壓力最高的泵。同理亦適用於第二及以後的泵。

The shaft end pump of multiple stage pump should have the largest displacement. It is also the maximum pressure of all pumps in multiple pump when the displacement is the same with all pumps. Likewise the secondary pump should have the second largest displacement of all pumps.

IGC, IGH, IGM Internal Gear Pump 內齒合齒輪泵

技術資料 / Technical Data

標示的重量不合法蘭 Weight without flange

型式 MODEL	泵排量 Theoretical Displacement c.c/rev.	最高壓力 MAX. Pressure kgf/cm ² 持續Cont. 瞬間Peak.		容許回轉速 Shaft Speed Min. Max.		重量 WEIGHT Kg	入口 Inlet Port	出口 Outlet Port
IGC-4	20	140	175	200	2500	9.5	1-1/4"	3/4"
	25	140	175	200	2500	10.0	1-1/4"	3/4"
	32	140	175	200	2500	10.5	1-1/4"	3/4"
IGC-5	40	140	175	100	2200	19.0	1-1/2"	1"
	50	140	175	100	2200	20.0	1-1/2"	1"
	64	140	175	100	2200	21.0	1-1/2"	1"
IGC-6	80	140	175	100	2000	39.0	2"	1-1/2"
	100	140	175	100	2000	41.0	2"	1-1/2"
	125	140	175	100	2000	43.0	2"	1-1/2"
IGM-2	3.5	220	250	600	2000	2.4	1/2"	1/2"
	5	220	250	600	2000	2.5	1/2"	1/2"
	6.5	220	250	600	2000	2.6	1/2"	1/2"
	8	220	250	600	2000	2.8	1/2"	1/2"
IGM-3	10	220	250	600	2000	4.8	1"	1/2"
	13	220	250	600	2000	5.0	1"	1/2"
	16	220	250	600	2000	5.3	1"	1/2"
IGM-4	20	220	250	600	2000	9.5	1-1/4"	3/4"
	25	220	250	600	2000	10.0	1-1/4"	3/4"
	32	220	250	600	2000	10.5	1-1/4"	3/4"
IGM-5	40	220	250	600	2000	19.0	1-1/2"	1"
	50	220	250	600	2000	20.0	1-1/2"	1"
	64	220	250	600	2000	21.0	1-1/2"	1"
IGM-6	80	220	250	600	2000	39.0	2"	1-1/2"
	100	220	250	600	2000	41.0	2"	1-1/2"
	125	220	250	600	2000	43.0	2"	1-1/2"
IGH-2	3.5	250	300	600	2000	2.4	1-1/2"	1/2"
	5	250	300	600	2000	2.5	1-1/2"	1/2"
	6.5	250	300	600	2000	2.6	1-1/2"	1/2"
	8	250	300	600	2000	2.8	1-1/2"	1/2"
IGH-3	10	250	300	600	2000	4.8	1"	1/2"
	13	250	300	600	2000	5.0	1"	1/2"
	16	250	300	600	2000	5.3	1"	1/2"
IGH-4	20	250	300	600	2000	9.5	1-1/4"	3/4"
	25	250	300	600	2000	10.0	1-1/4"	3/4"
	32	250	300	600	2000	10.5	1-1/4"	3/4"
IGH-5	40	250	300	600	2000	19.0	1-1/2"	1"
	50	250	300	600	2000	20.0	1-1/2"	1"
	64	250	300	600	2000	21.0	1-1/2"	1"
IGH-6	80	250	300	600	2000	39.0	2"	1-1/2"
	100	250	300	600	2000	41.0	2"	1-1/2"
	125	250	300	600	2000	43.0	2"	1-1/2"

IGC, IGH, IGM Internal Gear Pump

內齒合齒輪泵

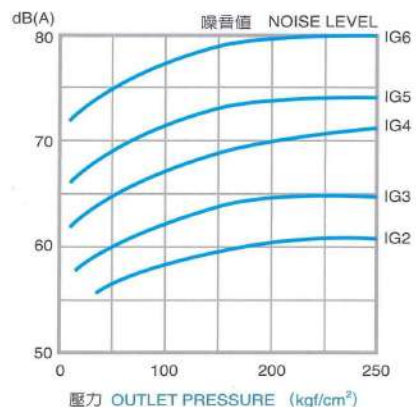
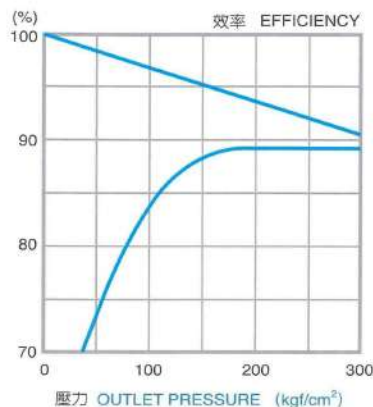
馬力-流量特性 / Delivery & Power Rating

轉速 SPEED	ITEMS PRESSURE MODEL	吐出量 DELIVERY L/min.						輸入馬力 POWER INPUT (kw)					
		7	70	140	210	250	300	7	70	140	210	250	300
1000 rpm	IG※-2-3.5	3.59	3.48	3.39	3.28	3.24	3.16	0.13	0.61	1.10	1.60	1.89	2.26
	-5	5.32	5.09	4.95	4.79	4.70	4.61	0.14	0.77	1.44	2.22	2.58	3.13
	-6.5	6.54	6.36	6.20	6.04	5.94	5.82	0.16	0.95	1.78	2.74	3.19	3.87
	-8	8.18	7.95	7.74	7.55	7.42	7.28	0.16	1.17	2.20	3.38	3.93	4.77
	IG※-3-10	10.1	9.95	9.7	9.4	9.3	9.1	0.17	1.56	2.68	4.17	4.96	6.0
	-13	13.1	13.0	12.6	12.4	12.2	12.0	0.26	1.98	3.50	5.25	6.17	7.58
	-16	15.7	15.3	15.0	14.7	14.5	14.2	0.32	2.32	4.15	6.23	7.33	9.01
	IG※-4-20	20.6	20.1	19.7	19.2	19.0	18.7	0.42	3.07	5.45	8.08	9.61	11.5
	-25	25.6	25.1	24.6	24.1	23.8	23.5	0.48	3.72	6.76	10.1	11.9	14.3
	-32	32.6	31.5	30.9	30.3	30.0	29.6	0.54	4.62	8.50	12.6	15.0	18.0
	IG※-5-40	40.7	39.8	38.9	38.1	37.6	37.0	1.1	6.06	10.7	16.0	18.9	23.3
	-50	50.2	49.2	48.3	47.3	46.8	46.1	1.2	7.28	13.3	19.7	23.3	28.0
-64	63.9	62.5	61.4	60.2	59.5	58.6	1.3	9.14	16.9	25.0	30.3	35.6	
IG※-6-80	81.0	79.5	77.8	76.0	75.0	73.8	1.98	11.6	21.8	32.2	38.4	46.6	
-100	101.5	99.4	97.7	95.9	94.7	93.0	2.42	14.5	27.4	40.5	48.1	57.6	
-125	125.9	123.1	120.9	118.5	117.2	115.4	2.94	17.8	34.0	50.0	59.6	71.4	
1500 rpm	IG※-2-3.5	5.40	5.24	5.11	4.97	4.90	4.80	0.19	0.94	1.65	2.41	2.83	3.39
	-5	7.85	7.65	7.44	7.25	7.13	6.98	0.22	1.15	2.17	3.25	3.78	4.60
	-6.5	9.1	9.58	9.35	9.13	8.99	8.84	0.23	1.44	2.68	4.01	4.67	5.67
	-8	12.2	11.8	11.60	11.35	11.2	11.0	0.25	1.75	3.30	4.95	5.76	7.00
	IG※-3-10	15.2	14.8	14.5	14.2	14.0	13.8	0.26	2.27	4.07	6.10	7.26	8.82
	-13	19.8	19.4	19.0	18.7	18.5	18.2	0.40	2.89	5.31	7.78	9.26	11.4
	-16	23.6	23.1	22.6	22.2	22.0	21.7	0.49	3.39	6.30	9.35	11.0	13.5
	IG※-4-20	30.9	30.3	29.7	29.2	28.8	28.4	0.61	4.61	8.17	12.2	14.4	17.3
	-25	38.4	37.7	37.1	36.5	36.1	35.7	0.77	5.58	10.2	15.1	17.9	21.5
	-32	48.3	47.5	46.7	45.9	45.4	44.9	1.02	6.93	12.8	18.9	22.5	27.0
	IG※-5-40	61.1	59.9	58.8	57.6	56.9	56.2	1.80	9.33	16.3	24.2	28.7	35.3
	-50	75.4	74.0	72.8	71.6	70.8	70.0	2.0	11.2	20.1	29.8	35.4	42.5
-64	95.4	94.1	92.5	91.0	90.0	89.0	2.1	14.1	25.5	37.9	45.0	54.0	
IG※-6-80	121.9	119.4	117.2	115.0	113.5	111.8	3.15	18.3	33.2	48.9	58.4	70.8	
-100	152.4	149.6	147.3	144.7	143.2	141.3	3.85	22.6	41.2	61.4	73.0	87.5	
-125	188.8	185.4	182.3	179.3	177.5	175.4	4.69	27.4	51.2	76.0	90.4	108.0	

測試條件: Testing Condition 油溫: Oil Temperature 40°C ±5 作動油: Operating Fluid: ISO VG68

性能曲線 / Performance Curve

回轉速 Revolving Speed: 1200 min⁻¹
作動油 Operating Fluid: ISO VG68



IGC, IGH, IGM

Multiple Stage Internal Gear Pump

多聯式內齒合齒輪泵

操作指南 / Operating Instruction

1. 液壓油:符合DIN第2及第3部份之HLP油,黏度為ISO 46-68。
最適操作黏度: 20-100 cSt。
最大作動黏度: 1500 cSt。
最小黏度: 15 cSt。
 2. 操作溫度範圍: 5 to 70°C。
 3. 吸入壓力: Absolute 0.8-1.3 kgf/cm²。
 4. 過濾器: 吸入口過濾器 100µm。
回油過濾器: 25µm。
壓油清潔度, NAS 1638 第9級。
 5. 流速: 吸油管: 2M /sec。
壓力管: 5M /sec。
回油管: 3M /sec。
 6. 運轉: 傳動軸不得承受任何徑向或軸向壓力。
請使用彈性連軸器, 泵和馬達傳動軸必須緊密連接。
安裝時不得使用敲擊或任何不當之強力方式。
請注意泵與馬達之轉動方向是否配合。
其他藉由鏈條或皮帶傳動時請向我方查詢。
 7. 泵之安裝方向不限,但請注意在首次操作時務必將空氣排除。
 8. 泵之啟動及停止前請先確定是在無負載狀況下方能為之。
 9. 吸油管及壓力管之連結切勿過緊。
 10. 運轉及初次啟動: 在遵循以上指示後請確認系統及連接機器之設備完全符合國家標準後方得啟動泵。
 - a. 檢查電動馬達之空轉及其轉動方向。
 - b. 泵運轉時應注意油槽之油量是否足夠。
不足時請先填滿油,再運轉。
 - c. 泵啟動時應於無負載狀況下運轉。
 - d. 重覆短暫啟動泵(寸動),直到泵開始供油。
 - e. 在泵開始負載前,應將系統中的空氣全部排除,使運轉時不會產生空蝕現象及噪音。
 - f. 注意溫度變化,當泵表面溫度明顯高於油溫時,請立刻停止運轉並檢查相關機械設備。
 - g. 液壓設備在修理過程或首次啟動時系統會產生大量污損,因此應使設備在無負載狀況下運轉並在運轉100小時後更換過濾器,在更換泵時應特別留意壓油及設備組件之清潔。
 - h. 液壓設備之操作應由經驗豐富及合格之專業人員為之。
1. Hydraulic Oil:
Use the hydraulic oil viscosity as same as ISO 46-68.
(Viscosity over 90 cSt). The hydraulic oil cleanness should be kept within NAS 1638, the 9th degree.
Optimal Operation Viscosity : 20-100 cSt
Maximum Operation Viscosity: 1500 cSt.
Minimum Operation Viscosity: 15 cSt.
 2. Operating temperature: 5 to 70°C.
 3. Suction Pressure: Absolute 0.8-1.3 kgf/cm²
 4. Filter: Suction strainer 100µm.
Return filter: 25µm.
Hydraulic oil cleanness: NAS 1638 the 9th degree.
 5. Flow speed: Suction Line: 2 M/ Sec.
Pressure Line: 5 M/sec.
Return Line: 3 M/sec.
 6. Rotation:
Do not cause any axial or radial pressure to the drive shaft.
Use flexible coupling. Tighten closely the pump shaft and motor shaft. Do not use improper way to instal the pump, such as hitting. Be aware of the rotating direction of pump and motor.
Any other request of installation, please consult with the suppliers.
 7. Bleed the air when pump runs for the first time.
 8. Please make sure the pump is on no-load state when start and stop operation.
 9. Do not fasten too tight when being connect with the suction line and pressure line.
 10. Start-up operation: Following the instruction and all other requirements before start up operation.
 - a. Make sure the rotation of electric motor is correct.
 - b. Check the oil level of oil tank before starting and filling the oil when it is insufficient.
 - c. Repeat power on and off when pump is first running until the pump starts to supply oil.
 - d. Pump should be run under no load state when starting operation.
 - e. Before starting, run the pump under no-load state, bleed the air out of the circuit to prevent noise and cavitation.
 - f. Be aware of the temperature variation: Once the temperature of pump is apparently higher than oil, Stop pump running and check all equipment closely.
 - g. When starting running of pump at the first time or after repair, whole hydraulic system are liable to be contaminated. Please run the pump under no-load state and replace or clean all filters after 100 hours.
 - h. Operation of hydraulic system should be handled by professionals.