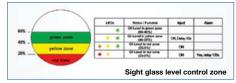
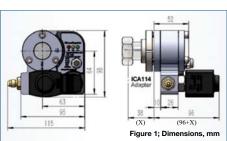
Oil Level Regulator - ICG680R 油位控制器 - ICG680R



3/N/PE AC 50/60Hz 400V L2 L3 Wiring diagram





APPLICATION:

ICG680R monitors and controls the oil level in compressors, and generates an alarm for low oil level.

ICG680R maintains the oil level between 40% till 60%. Solved the oil distribution for compressors in tandem configuration, by actively adjusting oil level from the oil separators or oil receivers.

NOTE: only applicable to low-pressure chamber compressors, please choose ICG580R for high-pressure chamber compressors.

FEATURES:

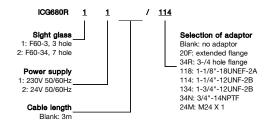
- * Suitable for HFC, HCFC, CFC and CO2 refrigerants.
- * Hall sensor allows precise level detection, with no incorrect measurements due to foaming or incidence of light.
- * Real-time LED lights display and SPDT alarm. * Oil measuring range: base level +/- 10.5mm.
- * The oil inlet port is easy to clean.
- * Suitable for both high-pressure and low-pressure oil system.

SPECIFICATIONS:

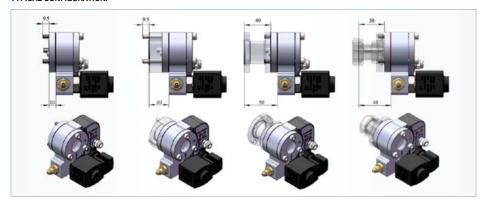
Item	Description	
Supply voltage	AC 50/60Hz 230V +10/-15% 17VA AC 50/60Hz 24V +10/-15% 17VA	
Ambient / storage temp.	-40°C +60°C	
Humidity	0 to 95% RH	
Medium temp.	-40°C +120°C	
Max. working pressure	60bar	
Test pressure	66bar	
Vibration resistance	Max. 4g, 10250Hz (EN 60028-2-6)	
Oil level control	40% 60% of sight glass height	
Solenoid valve MOPD	31bar	
Flow rate at ΔP=3.5bar	0.9 liter/min. H₂O at 20°C	
Time delay filling	510sec.	
Alarm contact	SPDT, 5A, 240V AC, C300, dry contact	
Alarm delay	90sec.	
Mechanical life	Approx. 1 million switching cycles	
Connection cable	6xAWG 20#, color coded	
Applied standards	EN12284, EN378, EN61010, EN61000-6-1/-2	
Protection class	IP67 for base, IP65 for coil (EN 60529)	
Material	AW6082, SUS304, PA66/PA6+GF	
Oil connection	7/16"-20UNF male, with strainer and O-ring	
Oil compatibility	Mineral and ester oil without additives	
Mounting position	Horizontal, +/-1°	
Weight	Approx. 1kg (without adaptor)	

Oil Level Regulator - ICG680R 油位控制器 - ICG680R

NOMENCLATURE:



TYPICAL CONFIGURATION:



LED INDICATION AND BACK PARTS:







Oil Level Regulator - ICG680R

油位控制器 - ICG680R

SIGHT GLASS SELECTION:



F60-3 sight glass - with three(3) M6 x 55 bolts of stainless steel

- * Connect directly to the compressor of the 3-hole flange sight glass with 3 bolts.
- Connect the compressor after connecting it to the adaptor with 3 bolts.

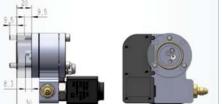


F60-34 sight glass - with four(4) M6 x 55 bolts of stainless steel

- * Connect directly to the compressor of the 4-hole flange sight glass with 4 bolts.
- * Connect directly to the compressor of the 3-hole flange sight glass with 3 bolts.
- * Connect to the compressor after connecting it to the adaptor

OIL INJECTION SELECTION:



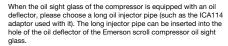


ICG680R-1 with ICA20F and short injector pipe:

Most compressors with 3-hole or 4-hole flange oil sight glasses don't require an additional adaptor. However, some kinds of compressors may have interference. In such cases, the ICA20F adaptor or the ICA34R adaptor can be selected as an option.

- * ICA20F accessories: 4pcs of M6 x 75; 1pcs of ø32.99 x 2.62 HNBR-MR01-70A O-ring.
- * ICA34R accessories: 1pcs of ø32.99 x 2.62 HNBR-MR01-70A O-ring.
- * Other adaptor accessories: metal gaskets or PTFE gaskets for sealing.

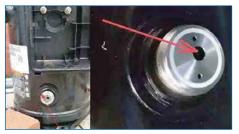
ICG680R-1 with ICA114 and long injector pipe:







- $^{\star}\,$ Must use oil storage type or oil storage, and the outlet must not have a float valve; check the flexibility of the swing arm to follow the oil level regularly. If the magnetic swing arm float is absorbed by black grease, please clean it in time.
- $^{\star}\,$ The lubricant temperature before entering the electronic level control should not be higher than 120 deg.C, in order to allow the lubricant to get natural cooling, please use copper pipe for the main supply pipe and branch pipe, recommended main tube 7/8", branch 1/4",
- * A 50um filter must be equipped with the main oil supply pipe, to prevent the solenoid valve seat from getting dirty.
- * There's a filter inside the oil connection port. If necessary, remove the oil
- * Periodically check the flexibility of the magnetic float to follow the oil level, if the magnetic float is adsorbed by black grease, please clean it in

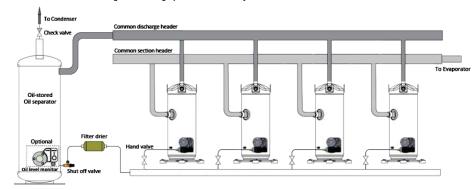


Oil Level Regulator - ICG680R 油位控制器 - ICG680R

ADAPTOR SELECTION GUIDELINE:

Model	Description	Length	Total Length	Compressor Series
		(X) mm	(96 + X) mm	
ICG680R-1	No adaptor	0	96	Frascold: A, B, D, Q, S, V, W, Z, A-SK, D-SK, F-SK, Q-SK, S-SK. Bitzer: 4V, 4T, 4P, 4N, 4-HVC-10K, THC-12K, PHC-15K, NHC-20K, VSL-15K, TSL-20K, PSL-25K, NSL-30K
				Bock: HA, HG, O series; Dorin: KP, K series.
				Copeland: 4M, 6M, D2, D3, D4, D6, D9, 4CC, 6CC, ZBH, D8D, D8S.
				Refcomp: SP4, SP6, SP8, SPM.
				INVOTECH: YSM, YSF series; Panasonic: 3CC, 2CC, ACC, C-SC series
ICG680R-2	No adaptor	0	96	Bitzer: 4J, 4H, 4G, 6J, 6H, 6G, 6F, 8GC, 8FC.
ICA20F	20F 3-/4 hole extended flange adaptor (4pcs of M6 x 75 bolts attached)	20	116	Same as above
ICA34R	34R 3-/4 hole flange adaptor	40	136	Frascold: A, B, D, Q, S, V, W, Z, A-SK, D-SK, F-SK, Q-SK, S-SK. Bitzer: 4V, 4T, 4P, 4N, 4-HVC-10K, THC-12K, PHC-15K, NHC-20K, VSL-15K, TSL-20K, PSL-25K, NSL-30K, 4J, 4H, 4G, 6J, 6H, 6G, 6F, 8GC, 8FC. Book: HA, HG, O series; Dorin: KP, K series.
				Copeland: 4M, 6M, D2, D3, D4, D6, D9, 4CC, 6CC, ZBH, D8D, D8S. Refcomp: SP4, SP6, SP8, SPM.
				INVOTECH: YSM, YSF series; Panasonic: 3CC, 2CC, ACC, C-SC series
ICA118-46	1-1/8"-18UNEF-2A thread	37	133	Bitzer: 2KC, 2JC, 2HC, 2GC, 2FC, 2EC, 2DC, 2CC, 4FC, 4EC, 4DC, 4CC
	adaptor			Bock : HA12/22/34, HG12/22/34 series.
				Dorin: H, K100C, K150C, K180C, K200CC, K230CS, K235CC, K240SB, K50CS, K75CC/CS series.
				Maneurop: LT, MT, SM, SZ series; L'UniteHem: TAH, TAG series.
				Refcomp: YM, YF series.
ICA114	1-1/4"-12UNF-2B rotalock adaptor	38	134	Copeland: ZB15 to ZB114, ZF06 to ZF54, ZFI20 to ZFI81 ZBD21 to ZBD45 - after 06/2014, ZS21 to ZS45 - after 06/2014.
				INVOTECH: YM, YF series.
ICA134	1-3/4"-12UNF-2B rotalock adaptor	42	138	Copeland : ZB130, ZB150, ZB190, ZB220 ZFI 96, ZFI 122, ZFI 140, ZH, ZR 90, 11, 12, 16,19 ZR250 to ZR380, ZF24 to ZF48, ZS56 to ZS11.
ICA24M-56	M24x1 screw adaptor	56	152	Panasonic: C-SBN453.
ICA33M	M33x1 screw adaptor	47	143	Panasonic: 5CF277SA12.
ICA34N	3/4"-14NPTF thread adaptor	30	126	Trank: K series; Bitzer: ZL, ZM series.

Recommended schematic diagram of the high-pressure return oil system:







Adaptor For Oil Level Monitor / Regulator 适配器

APPLICATION:

ICA series adaptors can be used for the connection of oil level regulators, monitors and compressors in major brands, including but not limited to: Trax Oil OM3/OW3, Emerson OMB, DEKA COM(L), TEKLAB TR3, AC&R Optronic/SN series, ESK schulze ERM2-0-BC/ORS-0-BC, Carly ELECTROIL, FP ERL. etc.

D	Outstand for	Outheld for a second	Discouries and
Description	Substitute for	Suitable for compressors	Dimensions, mm
ICA34F: 3-/4-hole flange adaptor	OMB-AUA, P/N 063 521 OM0-CUA, P/N 805 037 OM0-CCC, P/N 805 041	Artic Circle G2, G4, G6 Bitzer 4VC, 4TC, 4TE, 4PC, 4NC, 4J, 4H, 4G, 6J, 6H, 6F, 8GC, 8FC Bock HA, HG (except G/HA-34/22) Copeland 4M & 6M, D2, D3, D4, D6, D9, 4CC, 6CC, ZBH, D8D, D8S Dorin all KP, K series Frascold A, B, D, F, S, V, W, Z, A-SK, D-SK, F-SK, Q-SK, S-SK series	45
ICA118: 1-1/8"-18 UNEF-2A screw adaptor	OMB-CO2, P/N 066 692 OM0-CBB, P/N 805 038	Bitzer 2KC, 2JC, 2HC, 2GC, 2FC, 2EC, 2DC, 2CC, 4FC, 4EC, 4DC, 4CC Bock HA 12/22/34, HG 12/22/34 Dorin all H series, K100C, K150C, K150C, K230CS, K235CC, K240SB, K40CC, K50CS, K75CC/CS, L'Unite Herm TAH, TAG Maneurop LT, MT, SM, SZ	
ICA34N: 3/4"-14 NPTF screw adaptor	OMB-ACA, P/N 065 668 OM0-CCA, P/N 805 039	Bitzer ZL, ZM series Copeland ZB15 to ZB48, ZBD21 to ZBD45 – until 06/2014 ZB56, 75, 92, 11 until 05/2012 ZF06 to ZF25 until 106/2014 ZF24 to ZF48 until 05/2012 ZS21 to ZS45 until 06/2014 ZS56 to ZS11 until 05/2012 Trank K series	
ICA134: 1-3/4"-12 UNF-2B screw adaptor	OMB-ACE, P/N 066 078 OM0-CCD, P/N 805 042	Copeland ZB130, ZB150, ZB190, ZB220, ZF196, ZF1122, ZF1140, ZH, ZF90, ZR11, ZF12, ZR16, ZF19, ZR250 to ZR380, ZS56 to ZS11	45 To 19 19 19 19 19 19 19 19 19 19 19 19 19

Adaptor For Oil Level Monitor / Regulator 适配器

Description	Substitute for	Suitable for compressors	Dimensions, mm
ICA114: 1-1/4"-12 UNEF-2B screw adaptor	OMB-ACF, P/N 066 650 OM0-CCE, P/N 805 043	INVOTECH YM, YF series Copeland ZB15 to ZB114, ZF06 to ZF54, ZF120 to ZF181, ZBD21 to ZBD45 after 06/2014, ZS21 to ZS45 after 06/2014	26 -17/-1-18 -17/-1-19 -17/-1-19 -17/-1-19 -17/-1-19 -17/-1-19 -17/-1-19 -17/-1-19 -17/-1-19 -17/-1-19 -17/-1-19
ICA320F: 3 hole flange adaptor	Only for ICG360/580/680, OM3/OW3 DEKA-COM(L) PF-ERL	INVOTECH YSM, YSF series Panasonic 3CC, 2CC, ACC, C-SC series Frascold A, B, D, Q, S, V, W, Z, A-SK, D-SK, F-SK, Q-SK, S-SK series	12 8
168F34: 3-/4- hole flange adaptor with shut-off valve	OMB-AUA, P/N 063 521 OM0-CUA, P/N 805 037 OM0-CCC, P/N 805 041	Rctic Circle G2, G4, G6 Bitzer 4VC, 4TC, 4PC, 4NC, 4J, 4H, 4G, 6J, 6H, 6G, 6F, 8GC, 8FC Bock HA, HG (except G/HA-34/22), O series Copeland 4M & 6M, D2, D3, D4, D6, D9, 4CC, 6CC, ZBH, D8D, D8S Dorln all KP, K series Frascold A, B, D, F, S, V, W, Z, A-SK, D-SK, F-SK, Q-SK, S-SK	for regulation for compressor
ICA118CSH: 1-1/8"-18 UNEF-2A-CSH elongated screw adaptor		FUSHENG SRL-MS, SRL-DS series RefComp SRC-S, SRC-XS series HANBELL RC2 series Bitzer CSK, CSH series	



