

ISO 2858

CANNED MOTOR PUMPS



- Compliant to ISO 2858 Standards
- Market Leading Efficiency
- Low NPSH_R
- Efficient Low Flow, High Head Performance



SAFE, EFFICIENT, COMPLIANT
AND STANDARD BY DESIGN.

**RAISING THE STANDARD
FOR PROCESS PUMPS**

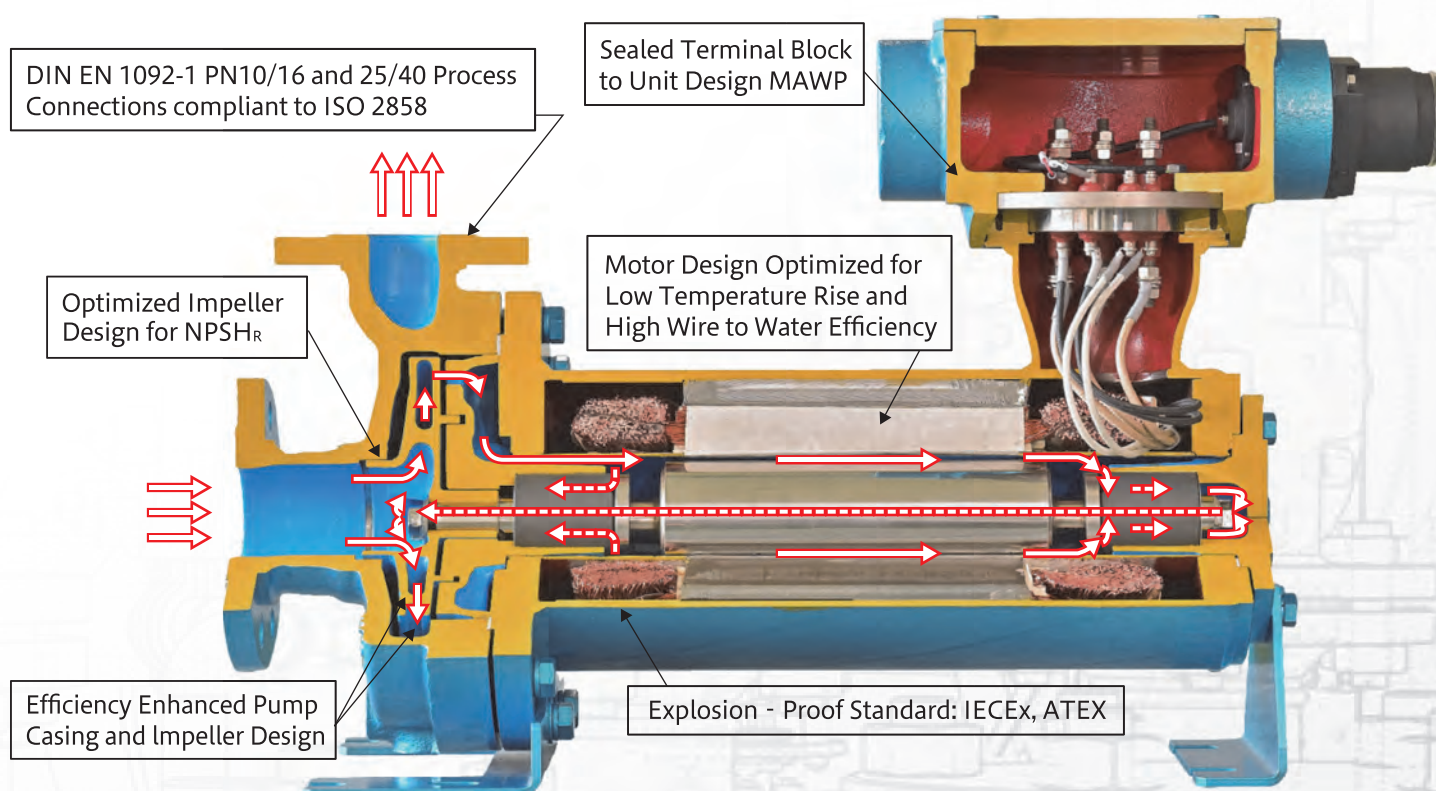
TEIKOKU ELECTRIC MFG. CO., LTD.



FEATURES

TEIKOKU ISO 2858 PUMPS RANGE

Temperature	-100 to 350°C
Viscosity	100cp
Design Pressure	2MPa
Motor Output (Max)	110kW
Wetted Materials	304SS, 316SS (others by request)



MOTOR CHARACTERISTICS

Frequency	50Hz	
Voltage	3PH, 190~690VAC	
Power Inlet	M, NPT threaded	
Enclosure	Totally Enclosed Liquid Cooled (TELC)	
Insulation Classes	Thermal Class 220, 300 & 400 available	
Safety	CE Mark	
Explosion Proof	IECEx, ATEX (IIB & IIC)	
Materials	Stator Liner	304LSS, 316LSS, Alloy C
	Rotor Liner	304LSS, 316LSS, Alloy C
	Sleeve Bearings	Carbon Graphite Standard
		Silicon Carbide Coating Optional
	Shaft Sleeve Journals	Stellite Coating
		Tungsten Carbide Coating Optional
	Axial Thrust Collars	Stellite Coating
		Tungsten Carbide Coating Optional

※Combinations of ISO2858 with 60Hz are possible, please feel free to contact us.



DESIGNED FOR ZERO-LEAKAGE

TEIKOKU, the world's largest supplier of canned motor pumps, offers ISO 2858 compliant sealless pumps to drive market demands for standardization and long term sustainability in operations.

No newcomer to the field, TEIKOKU has provided customers with proven Canned Motor Pump solutions for more than 50 years. Over 700,000 units have been installed worldwide, covering every possible application.

TEIKOKU is unique in that it designs and manufactures both pumps and motors, thus ensuring users total quality control and matched hydraulic/driver performance.

The TEIKOKU Canned Motor Pump replaces conventional sealed pumps, providing safer, more economical operation through reduced long-term cost of ownership. This is especially advantageous when pumping hazardous, volatile, toxic, and hard to handle liquids.

TEIKOKU provides expertise in selecting a sealless solution best suited to a user's specific needs. TEIKOKU's experience encompasses horizontal standard pumps, vertical designs with either pump up or motor up configurations, pumps and motors jacketed for cooling or heating, self-priming volutes, submersible units, slurry designs, non-cooled, high temperature insulated motor pumps and more.

II B (FMC) Motor

II C (ELC) Motor

215	1.5 kW	216	2.2 kW	217	3.5 kW	316	5.5 kW	317	8.4 kW	416	11 kW	417	17.5 kW	516	18.5 kW	518	26 kW	616	37 kW	617	45 kW	716	75 kW	717	110 kW	Power(max)		4215	1.5 kW	4241	3 kW	4245	5.5 kW	4341	7.2 kW	4345	11 kW	4418	19 kW	4515	29 kW	4615	45 kW	4711	55 kW	4715	85 kW	4717	110 kW		
																									Canned motor Type																										
																									Pump Size	Pump																									
																											50 – 32 – 160	0305SC1																							
																											50 – 32 – 200	0305TC1																							
																											50 – 32 – 250	0305UC1																							
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																											125 – 100 – 315	1012VC1																							

Motor jacket available (Optional)

Motor jacket not available



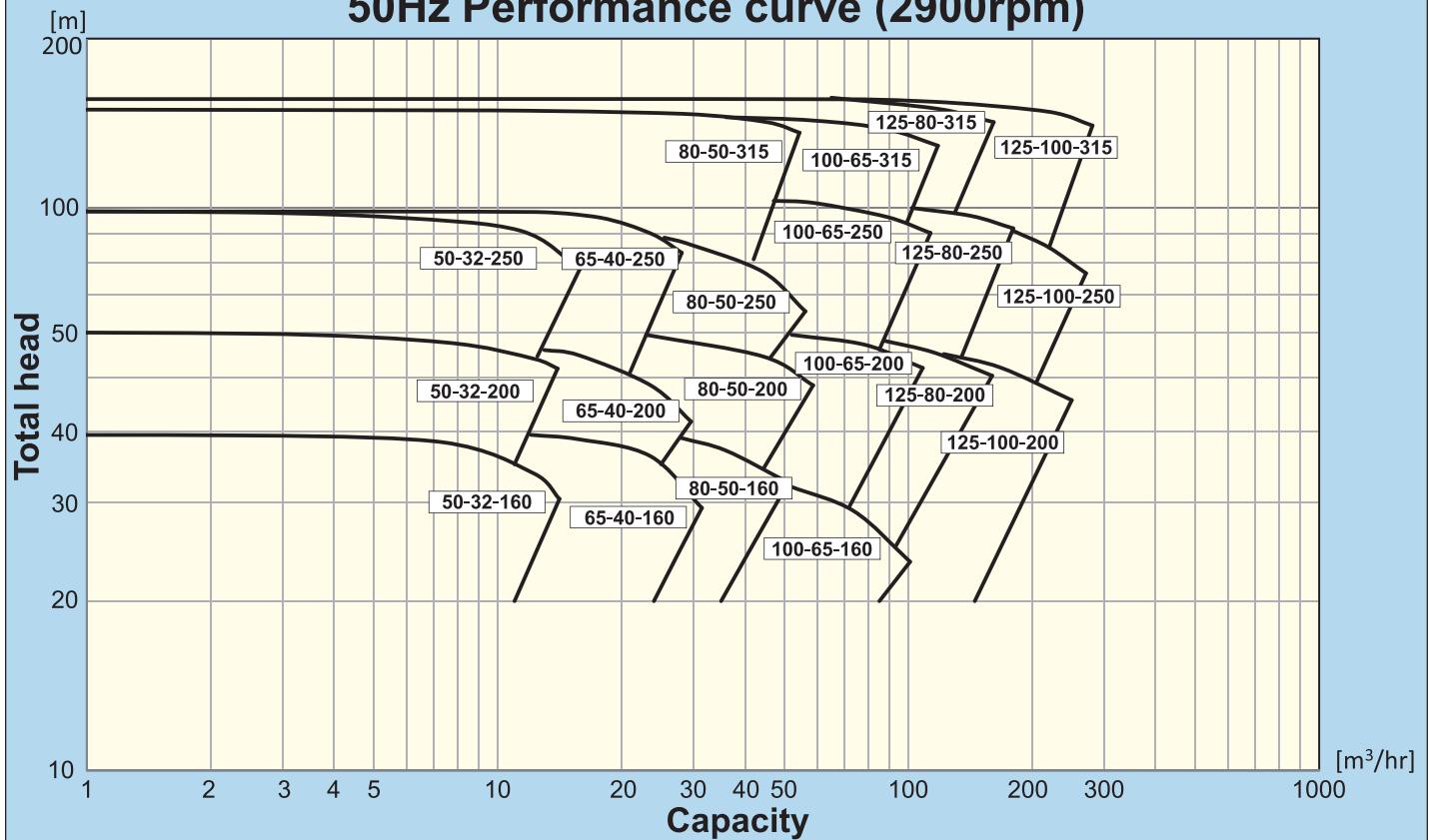
Pump Size designation	Motor	Pump	a	h1	h2	m1	m2	n1	n2	n3	s1	s2	L	Wt (kg)
50 — 32 — 160	215/216/217 316/317	0305SC1	80	132	160	100	70	240	190	110	M12	M12	374 527	90 135
50 — 32 — 200	215/216/217 316/317 416/417	0305TC1	80	160	180	100	70	240	190	110	M12	M12	408 487 559	100 140 195
50 — 32 — 250	316/317 416/417 516 518	0305UC1	100	180	225	125	95	320	250	110	M12	M12	490 562 584 664	160 215 305 305
65 — 40 — 160	215/216/217 316/317	0406SC1	80	132	160	100	70	240	190	110	M12	M12	379 532	95 140
65 — 40 — 200	316/317 416/417 516 518	0406TC1	100	160	180	100	70	265	212	110	M12	M12	492 564 644 724	150 205 305 305
65 — 40 — 250	416/417 516 518 616 617	0406UC1	100	180	225	125	95	320	250	110	M12	M12	564 586 666 789 849	225 315 315 445 445
80 — 50 — 160	316/317	0508SC1	100	160	180	100	70	265	212	110	M12	M12	540	145
80 — 50 — 200	416/417 516 518	0508TC1	100	160	200	100	70	265	212	110	M12	M12	572 652 732	215 315 315
80 — 50 — 250	416/417 516 518 616 617	0508UC1	125	180	225	125	95	320	250	110	M12	M12	572 594 674 797 857	235 325 325 455 455
80 — 50 — 315	516 518 616 617	0508VC1	125	225	280	125	95	345	280	110	M12	M12	588 668 734 794	345 345 465 465
100 — 65 — 160	316/317 416/417 516 518	0610SC1	100	160	200	125	95	280	212	110	M12	M12	547 618 659 739	155 215 305 305
100 — 65 — 200	416/417 516 518 616 617	0610TC1	100	180	225	125	95	320	250	110	M12	M12	579 659 739 804 864	215 315 315 435 435
100 — 65 — 250	516 518 616 617 716 717	0610UC1	125	200	250	160	120	360	280	110	M16	M12	601 681 804 864 950 1060	325 325 455 455 645 645
100 — 65 — 315	616 617 716 717	0610VC1	125	225	280	160	120	400	315	110	M16	M12	747 807 889 999	465 465 655 655
125 — 80 — 200	516 518 616 617	0812TC1	125	180	250	125	95	345	280	110	M12	M12	670 750 815 875	325 325 455 455
125 — 80 — 250	616 617 716 717	0812UC1	125	225	280	160	120	400	315	110	M16	M12	815 875 961 1071	475 475 665 665
125 — 80 — 315	616 617 716 717	0812VC1	125	250	315	160	120	400	315	110	M16	M12	758 818 900 1010	475 475 665 665
125 — 100 — 200	516 518 616 617 716 717	1012TC1	125	200	280	160	120	360	280	110	M16	M12	670 750 815 875 961 1071	325 325 455 455 645 645
125 — 100 — 250	616 617 716 717	1012UC1	140	225	280	160	120	400	315	110	M16	M12	815 875 961 1071	475 475 665 665
125 — 100 — 315	616 617 716 717	1012VC1	140	250	315	160	120	400	315	110	M16	M12	758 818 900 1010	475 475 665 665



Pump Size designation	Motor	Pump	a	h1	h2	m1	m2	n1	n2	n3	s1	s2	L	Wt (kg)
50 — 32 — 160	4215/4241	0305SC1	80	132	160	100	70	240	190	110	M12	M12	408	95
	4245												504	95
	4341												538	140
	4345												640	140
50 — 32 — 200	4215/4241	0305TC1	80	160	180	100	70	240	190	110	M12	M12	408	105
	4245												504	105
	4341												487	145
	4345												590	145
50 — 32 — 250	4341	0305UC1	100	180	225	125	95	320	250	110	M12	M12	490	165
	4345												593	165
	4418												612	225
	4515												644	305
65 — 40 — 160	4215/4241	0406SC1	80	132	160	100	70	240	190	110	M12	M12	413	100
	4245												509	100
	4341												543	145
	4345												645	145
65 — 40 — 200	4341	0406TC1	100	160	180	100	70	265	212	110	M12	M12	492	155
	4345												595	155
	4418												614	215
	4515												704	305
65 — 40 — 250	4345	0406UC1	100	180	225	125	95	320	250	110	M12	M12	595	165
	4418												614	235
	4515												646	315
	4615												859	455
80 — 50 — 160	4245	0508SC1	100	160	180	100	70	265	212	110	M12	M12	517	105
	4341												551	150
	4345												653	150
80 — 50 — 200	4418	0508TC1	100	160	200	100	70	265	212	110	M12	M12	622	225
	4515												712	315
80 — 50 — 250	4345	0508UC1	125	180	225	125	95	320	250	110	M12	M12	603	165
	4418												622	245
	4515												654	325
	4615												867	465
80 — 50 — 315	4515	0508VC1	125	225	280	125	95	345	280	110	M12	M12	648	345
	4615												804	475
100 — 65 — 160	4341	0610SC1	100	160	200	125	95	280	212	110	M12	M12	558	160
	4345												660	160
	4418												658	225
	4515												719	305
100 — 65 — 200	4418	0610TC1	100	180	225	125	95	320	250	110	M12	M12	629	225
	4515												719	315
	4615												874	445
	100 — 65 — 250												4418	0610UC1
4515		661	325											
4615		874	465											
4711		870	635											
4715		990	635											
4717		1060	635											
100 — 65 — 315	4515	0610VC1	125	225	280	160	120	400	315	110	M16	M12	661	345
	4615												817	475
	4711												809	645
	4715												929	645
	4717												999	645
	125 — 80 — 200												4418	0812TC1
4515		730	325											
4615		885	465											
125 — 80 — 250		4615	0812UC1	125	225	280	160	120	400	315	110	M16	M12	
	4711	881												655
	4715	1001												655
	4717	1071												655
125 — 80 — 315	4615	0812VC1	125	250	315	160	120	400	315	110	M16	M12	828	485
	4711												820	655
	4715												940	655
	4717												1010	655
125 — 100 — 200	4418	1012TC1	125	200	280	160	120	360	280	110	M16	M12	640	225
	4515												730	325
	4615												885	465
	4711												881	635
	4715												1001	635
	4717												1071	635
125 — 100 — 250	4615	1012UC1	140	225	280	160	120	400	315	110	M16	M12	885	485
	4711												881	655
	4715												1001	655
	4717												1071	655
125 — 100 — 315	4615	1012VC1	140	250	315	160	120	400	315	110	M16	M12	828	485
	4711												820	655
	4715												940	655
	4717												1010	655



50Hz Performance curve (2900rpm)

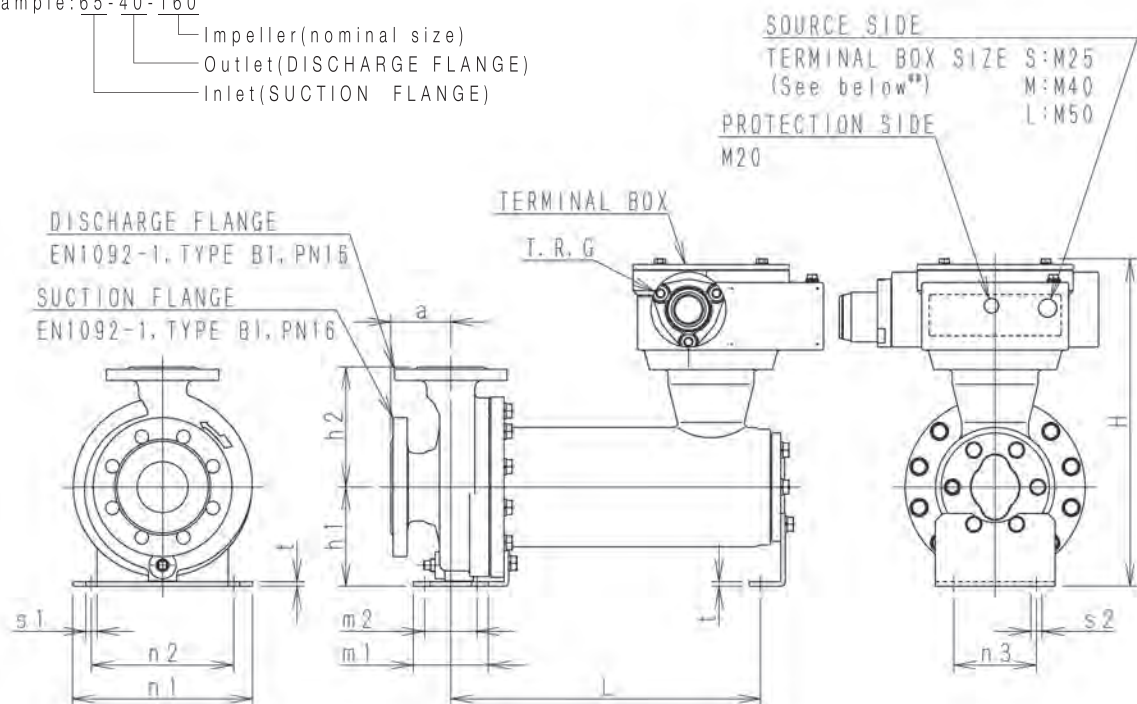


DIMENSIONS

Pump size designation

example: 65-40-160

- Impeller(nominal size)
- Outlet(DISCHARGE FLANGE)
- Inlet(SUCTION FLANGE)

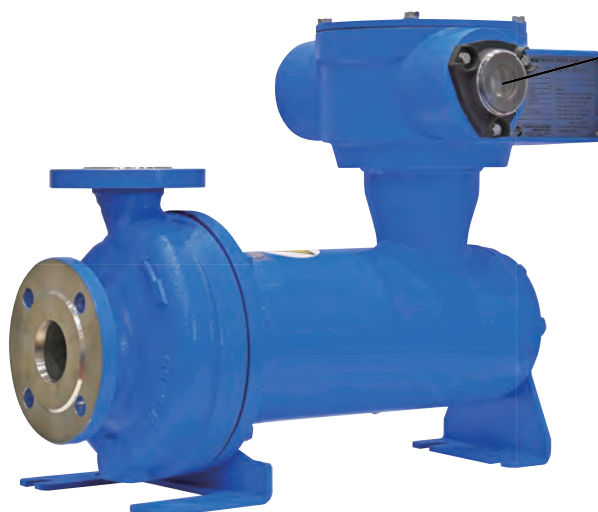




TEIKOKU ROTARY GUARDIAN – TRG

The industry standard for sealless pump monitoring and reliability for over 40 years

1. Monitor current conditions
2. Develop data-based preventive maintenance schedules



*US Patent No. 4211973 & 4334189

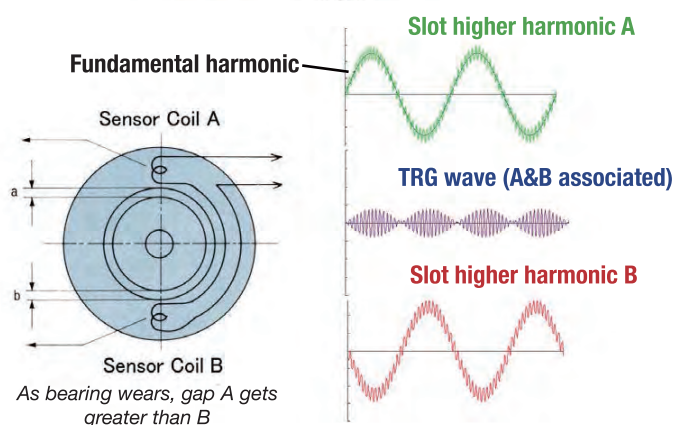
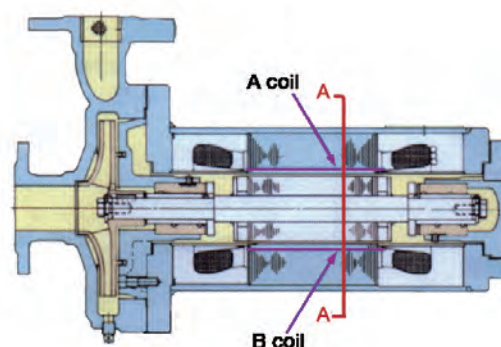


On-Board Terminal Box Mount

3. Monitors and indicates rate of radial bearing wear
4. Detects lost phase
5. Shows reverse rotation (Optional)

Principle of Operation

1. The TRG meter operates on the principle of induced voltage. A magnetic field is created in the TRG coils by the current flowing through the stator winding. In addition, a magnetic field is created by induced currents in the rotor.
2. When the rotor is perfectly centered in the stator, the two magnetic fields are essentially concentric or balanced.
3. When bearing wear occurs and the gap "B" between the rotor and stator decreases, a magnetic flux created by the imbalance in the magnetic fields causes an induced voltage in the TRG coils.
4. This voltage is indicated on the TRG voltmeter. The meter is mounted on the pump terminal box as standard but is available as remote panel-mount.



TRG with Phase Sequence Sensor in Operation

TRG initial indication varies from pump to pump. Users can record the initial value to establish a baseline. This determines a point from which to monitor the wear rate of the bearings and establishes preventative maintenance schedules.

TRG Indication Zone	Diagnosis	User Action
Green	Good	No Action
Yellow > 0.3v over baseline	Bearings Worn Caution Level	Plan Routine Maintenance
Red > 0.5v over baseline	Maintenance Required	Immediate Shutdown Replace Worn Parts

Optional TRG Converter

Converts signal into either analog 4-20mA or 1-5 VDC for various I&E control



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