

# EMTEC<sup>®</sup>-C PUMPS FOR HIGH PRESSURE COOLANT SUPPLY

BRINGING NEXT LEVEL PERFORMANCE TO COOLANT PUMPS

**NOW UP TO  
100 BAR**

LONGER SERVICE LIFE.  
HIGHER EFFICIENCY.  
LOW PULSATION.

## PUMP LIFE INTO YOUR MOST CRITICAL EQUIPMENT

### EMTEC-C COOLANT PUMPS CAN SIGNIFICANTLY EXTEND THE LIFE OF YOUR SYSTEM

Designed to efficiently cool and protect your equipment, the EMTEC-C pump extends service life while delivering unmatched reliability.



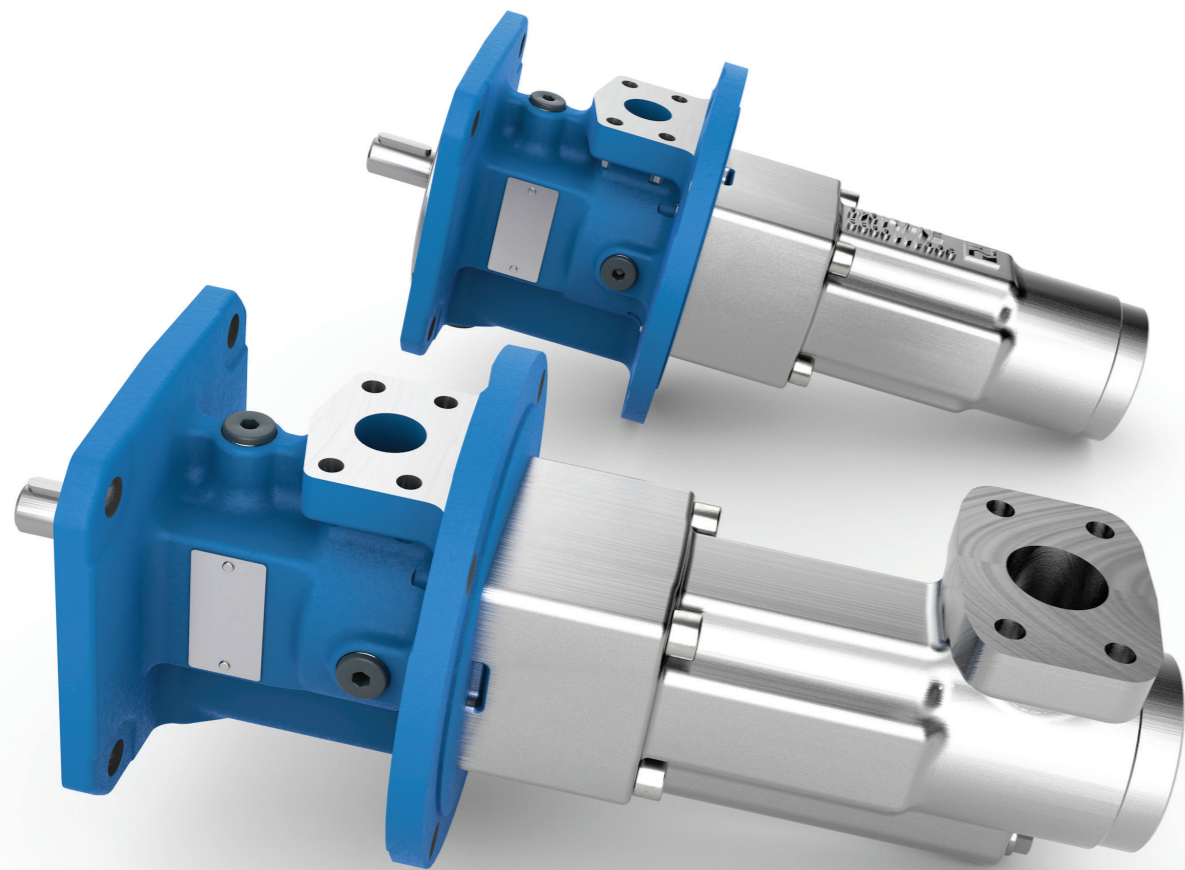
### AREAS OF APPLICATION

The EMTEC-C is designed to handle good, medium or mal-lubricating abrasive fluids in cooling lubricant technology or process engineering. It proves to be an essential element in metalworking applications, transfer lines and both grinding and deep drilling machines.

## EMTEC

### ADVANCED TECHNOLOGY FOR LONG SERVICE LIFE

EMTEC pumps are specifically designed to withstand the harsh environment of a high pressure machine tool coolant service. Special hardening techniques produce a surface hardness similar to ceramic in the housing bores while maintaining elasticity that eliminates the danger of bore surface fracture. The rotors are hardened to reach long lifetimes. The power rotor's balance piston is extra long, which improves the pump's volumetric efficiency. Flow that crosses the balance piston serves to cool and lubricate the silicon carbide mechanical shaft seal faces.

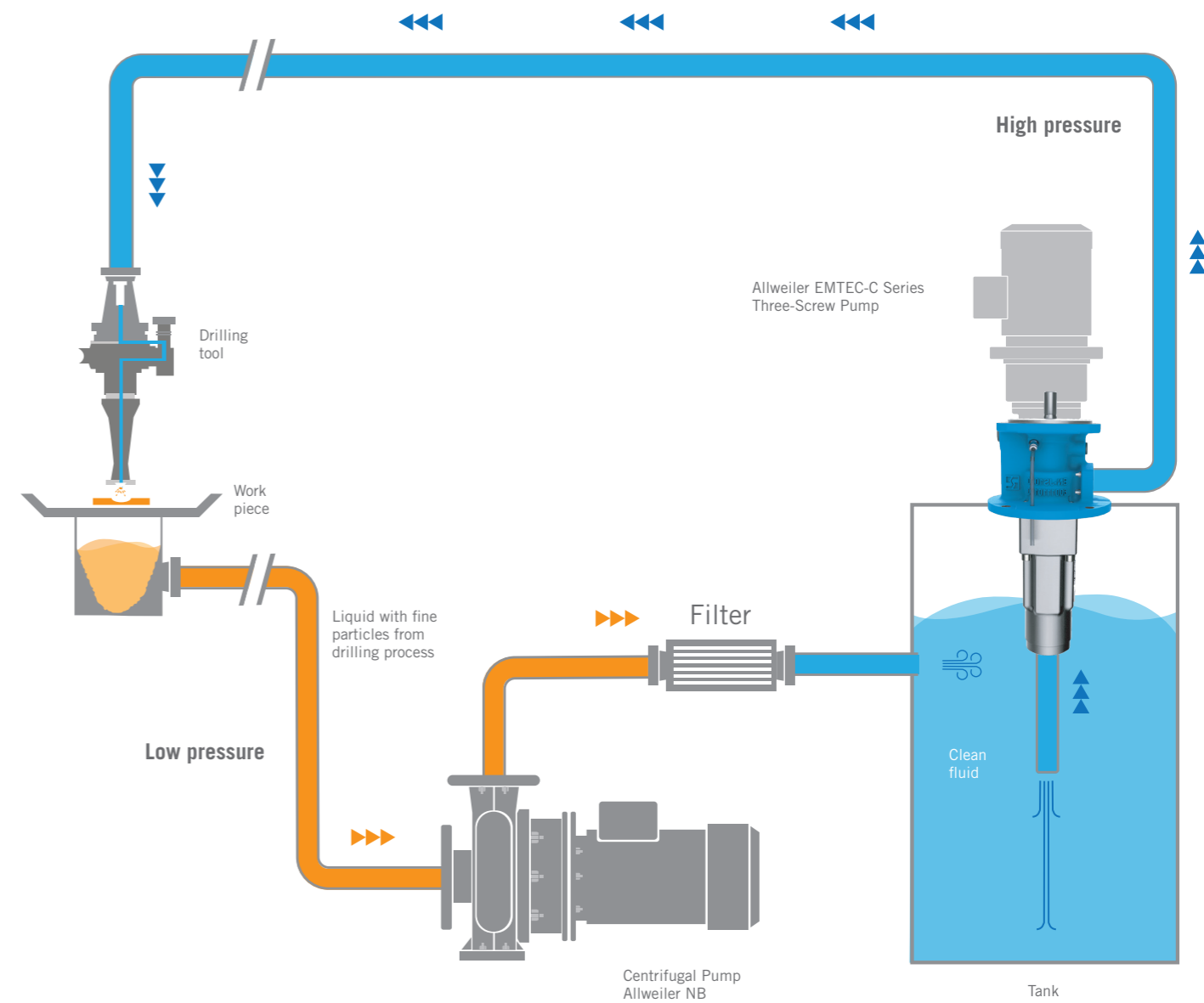


## THE REDESIGNED EMTEC-C

### AN EVOLUTION DECADES IN THE MAKING

We put our unmatched industry experience to use in designing the cutting-edge EMTEC-C. Built with the very best materials and featuring difference-making technology, the EMTEC-C is an easy-to-maintain three-screw pump that offers precise and efficient performance along with unbeatable reliability.

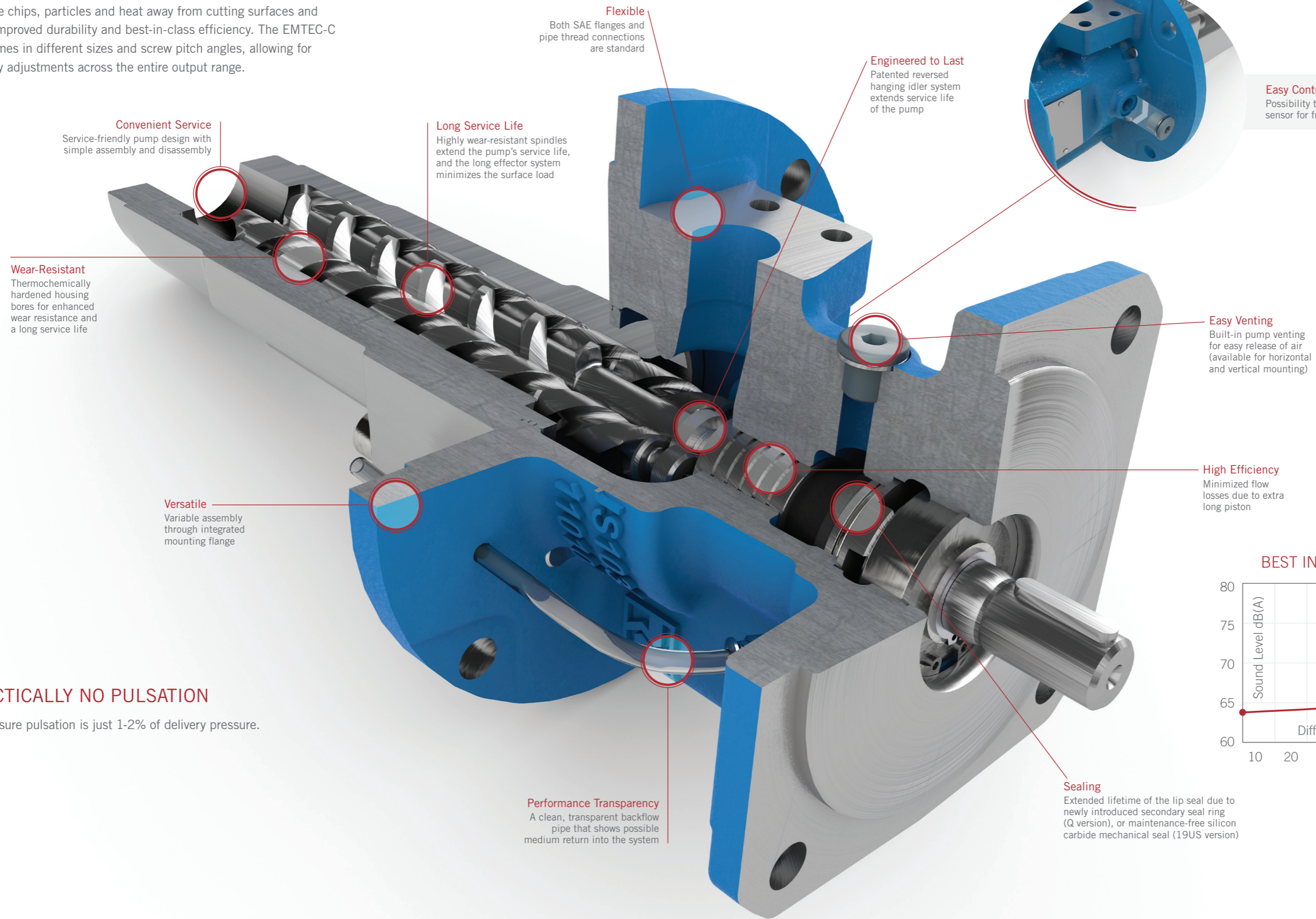
### MACHINING CENTER OVERVIEW



# WE MADE A GOOD PUMP EVEN BETTER

## EMTEC-C

Rebuilt from head to toe, the durable new EMTEC-C excels at moving machine chips, particles and heat away from cutting surfaces and offers improved durability and best-in-class efficiency. The EMTEC-C also comes in different sizes and screw pitch angles, allowing for capacity adjustments across the entire output range.



**Convenient Service**  
Service-friendly pump design with simple assembly and disassembly

**Long Service Life**  
Highly wear-resistant spindles extend the pump's service life, and the long effector system minimizes the surface load

**Wear-Resistant**  
Thermochemically hardened housing bores for enhanced wear resistance and a long service life

**Versatile**  
Variable assembly through integrated mounting flange

**Flexible**  
Both SAE flanges and pipe thread connections are standard

**Engineered to Last**  
Patented reversed hanging idler system extends service life of the pump

**Easy Control**  
Possibility to connect pressure sensor for frequency controller

**Easy Venting**  
Built-in pump venting for easy release of air (available for horizontal and vertical mounting)

**High Efficiency**  
Minimized flow losses due to extra long piston

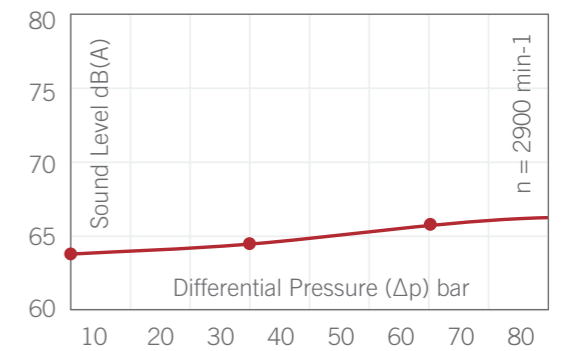
**Sealing**  
Extended lifetime of the lip seal due to newly introduced secondary seal ring (Q version), or maintenance-free silicon carbide mechanical seal (19US version)

**Performance Transparency**  
A clean, transparent backflow pipe that shows possible medium return into the system

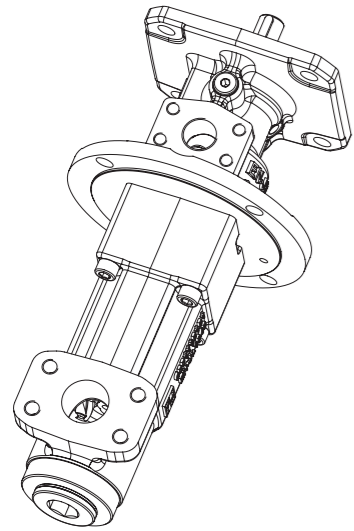
## PRACTICALLY NO PULSATION

Its pressure pulsation is just 1-2% of delivery pressure.

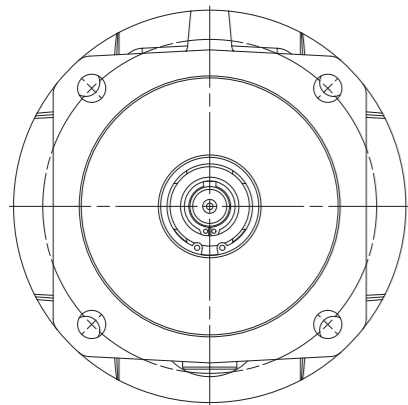
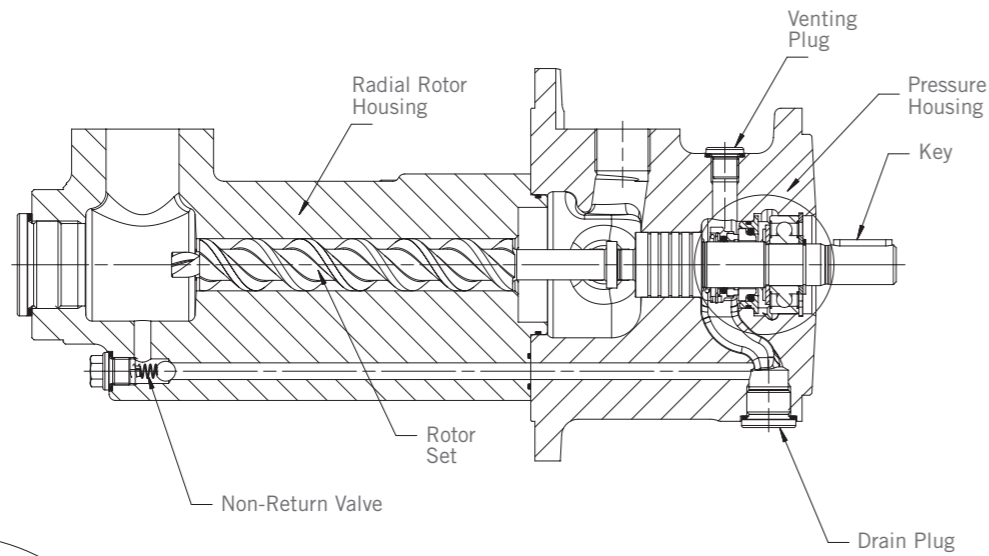
### BEST IN CLASS SOUND LEVELS



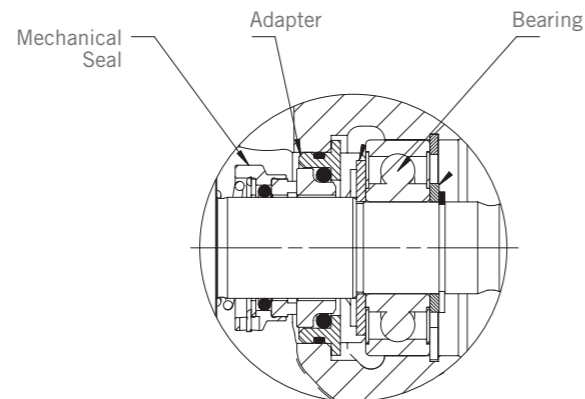
## EMTEC-C RADIAL



Seal type	Size	Pitch	Description
Mechanical seal (19US)	20	28	EMTEC-C20R28D19US-W110332
		38	EMTEC-C20R38D19US-W110332
		46	EMTEC-C20R46D19US-W110332
	40	56	EMTEC-C20R56D19US-W110332
		38	EMTEC-C40R38D19US-W110332
Lip seal (Q)	20	46	EMTEC-C20R46D19US-W110332
		56	EMTEC-C20R56D19US-W110332
		38	EMTEC-C40R38D19US-W110332
	40	46	EMTEC-C40R46D19US-W110332
		56	EMTEC-C40R56D19US-W110332

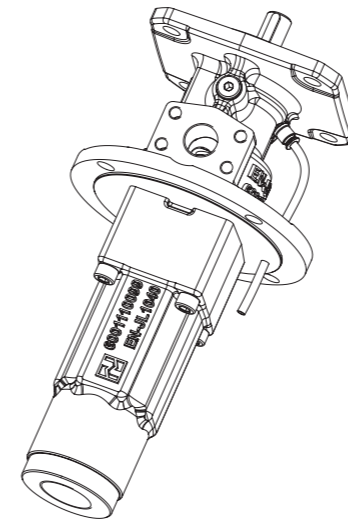


Top View

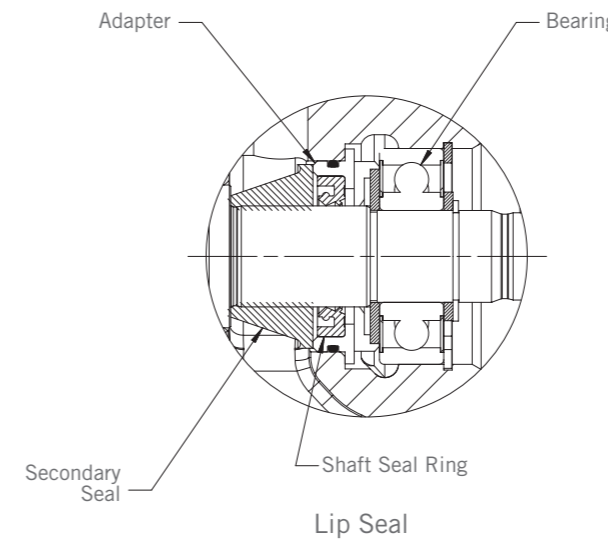
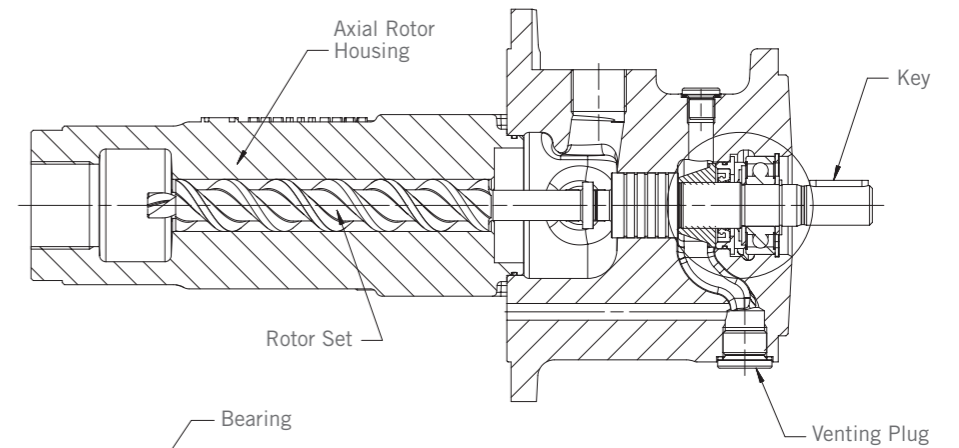


Mechanical Seal

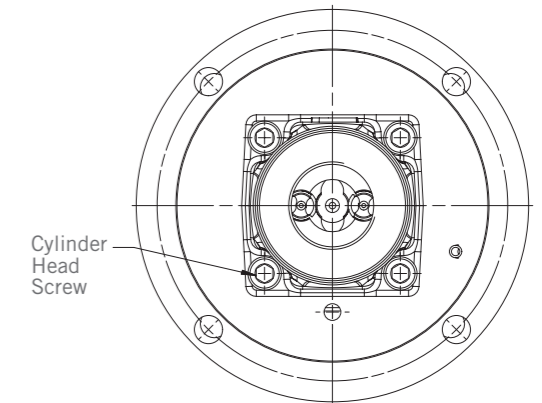
## EMTEC-C AXIAL



Seal type	Size	Pitch	Description
Mechanical seal (19US)	20	28	EMTEC-C20R28D19US-P-W110332
		38	EMTEC-C20R38D19US-P-W110332
		46	EMTEC-C20R46D19US-P-W110332
	40	56	EMTEC-C20R56D19US-P-W110332
		38	EMTEC-C40R38D19US-P-W110332
Lip seal (Q)	20	46	EMTEC-C20R46D19US-P-W110332
		56	EMTEC-C20R56D19US-P-W110332
		38	EMTEC-C40R38D19US-P-W110332
	40	46	EMTEC-C40R46D19US-P-W110332
		56	EMTEC-C40R56D19US-P-W110332



Lip Seal



Bottom View

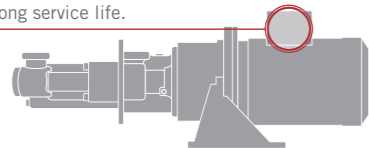
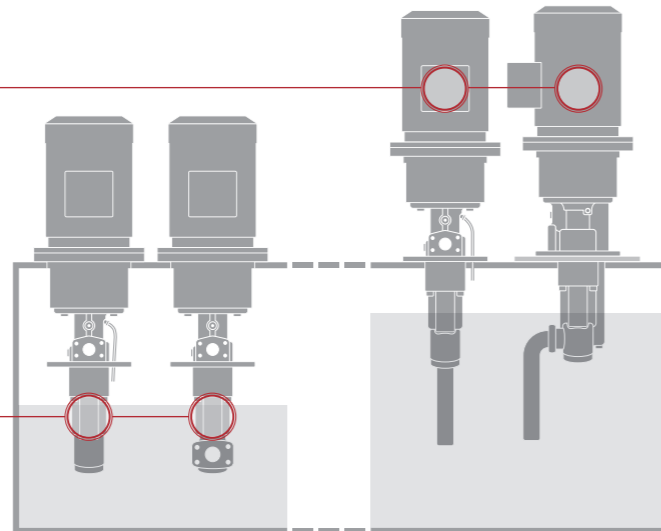
## DESIGNED TO MEET EVERY APPLICATION DEMAND

Available in different sizes and spindle pitch angles and able to accommodate multiple cooling lubricants at a wide flow range, the adaptable EMTEC-C is sure to be the right fit for your system's needs. The EMTEC-C can be installed in multiple ways to fulfill the requirements of your application.

Tank-top installation is easy and economical to install with the discharge connection above the tank cover.

Submerged tank mounting saves space, maintenance and costs compared to dry installation.

In foot-mounted installation, a silicon carbide mechanical seal ensures a long service life.



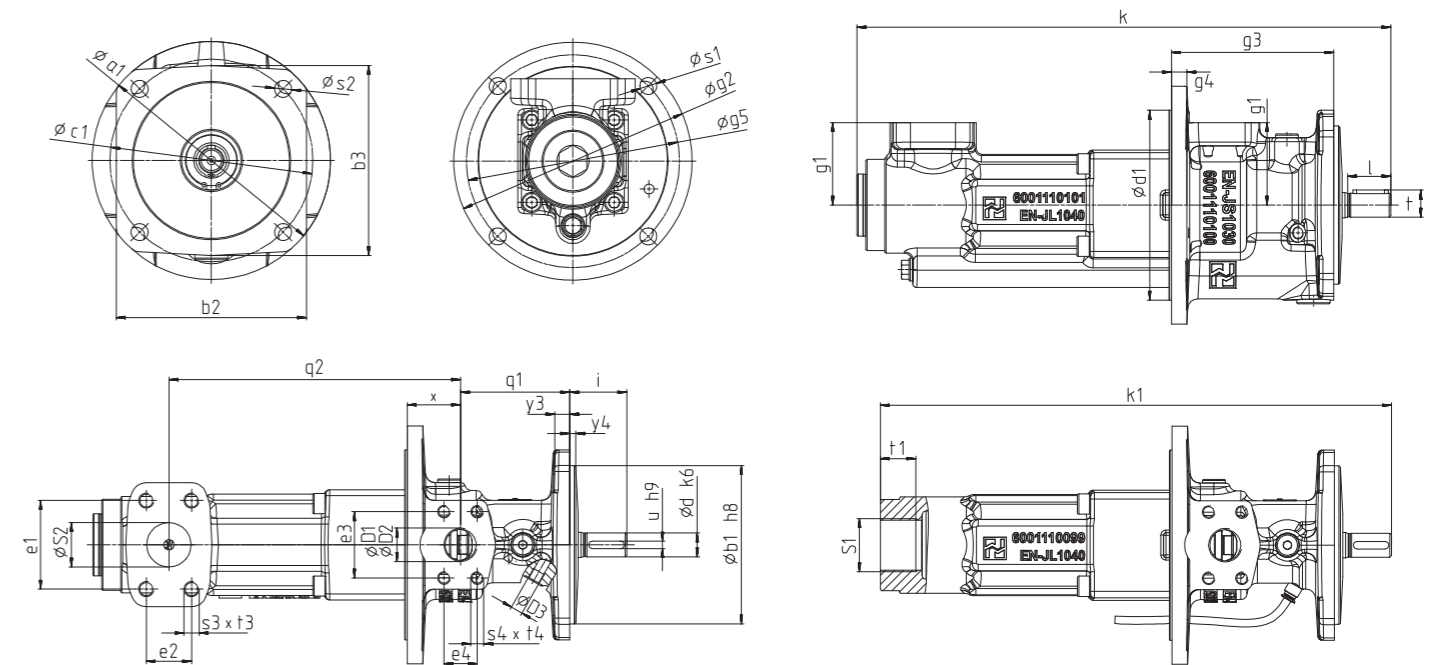
## MAXIMUM ALLOWABLE AIR CONTENT

10%: Emulsions & Solutions  
7%: Cutting Oil

Performance Parameters ①	
Capacity (Q)	10 to 80 l/min
Liquid Temperature (t)	Up to 80 °C
Suction-/Inlet Pressure (p <sub>s</sub> )	Up to 6 bar
Differential Pressure (Δp)	Up to 100 bar (emulsion)
Outlet Pressure (p <sub>d</sub> )	UP TO 100 bar
Viscosity Range ( )	1 to 760 mm <sup>2</sup> /s
Dirt Load Level	Up to 250 mg/l ③
Filter Fineness	Up to 100 μm ③

① For other performance data further pump series are available.  
② Inlet pressure plus differential pressure plus pressure rise caused by the hydraulic system must not exceed the pump outlet pressure.  
③ Pressure, dirt load level and filter fineness have to be matched to each other.

## EMTEC-C TYPICAL DIMENSIONS



Pump Size	Pump Dimensions (Metric – mm)												Shaft End				Flange Cover (DIN ISO 3019-2)									
	k	k1	i	q1	q2	x	g1	g2	g3	g4	g5	g6	d1	s1	d	l	u	t	a1	b1	b2	b3	c1	s2	y3	y4
EMT-C 20	421	403	45	86	230	42	65	188	128	12	168	-	150	13,5	19	34	6	21,5	188	125	150	150	160	13,5	12	5
EMT-C 40	464	453	45	86	273	42	65	188	128	12	168	-	150	13,5	19	34	6	21,5	188	125	150	150	160	13,5	12	5

Pump Size	Pump Dimensions (U.S. – inch)												Shaft End				Flange Cover (DIN ISO 3019-2)									
	k	k1	i	q1	q2	x	g1	g2	g3	g4	g5	g6	d1	s1	d	l	u	t	a1	b1	b2	b3	c1	s2	y3	y4
EMT-C 20	16.57	15.87	1.77	3.39	9.06	1.65	2.56	7.40	5.04	0.47	6.61	-	5.91	0.53	0.75	1.34	0.24	0.85	7.40	4.92	5.91	5.91	6.30	0.53	0.47	0.20
EMT-C 40	18.27	17.83	1.77	3.39	10.75	1.65	2.56	7.40	5.04	0.47	6.61	-	5.91	0.53	0.75	1.34	0.24	0.85	7.40	4.92	5.91	5.91	6.30	0.53	0.47	0.20

Pump Size	Pipe Thread		SAE Suction Flange (Metric – mm)					SAE Discharge Flange					Leakage Outlet	
	Suction Flange		D1 = Pipe Thread Connection					D1 = Pipe Thread Connection						
	S1	t1	Inch	s3xt3	e1	e2	S2	Inch	s4xt4	e3	e4	D1	D2	D3
EMT-C 20	G1¼	28	1½	M12x18	69,9	35,7	35	1	M10x18	52,4	26,2	G ¾	25	G 1/8
EMT-C 40	G1¼	28	1½	M12x18	69,9	35,7	35	1	M10x18	52,4	26,2	G ¾	25	G 1/8

Pump Size	Pipe Thread		SAE Suction Flange (U.S. – inch)					SAE Discharge Flange					Leakage Outlet	
	Suction Flange		D1 = Pipe Thread Connection					D1 = Pipe Thread Connection						
	S1	t1	Inch	s3xt3	e1	e2	S2	Inch	s4xt4	e3	e4	D1	D2	D3
EMT-C 20	G1¼	1.10	1½	M12x18	2.75	1.41	1.38	1	M10x18	2.06	1.03	G ¾	0.98	G 1/8
EMT-C 40	G1¼	1.10	1½	M12x18	2.75	1.41	1.38	1	M10x18	2.06	1.03	G ¾	0.98	G 1/8

### PERFORMANCE TABLE

#### EMTEC-C

Speed of Rotation: 1450 1/min      Capacity: Q [l/min]  
 Frequency: 50 Hz                      Power Required: P [kW]

Viscosity [mm <sup>2</sup> /s]	1.2 mm <sup>2</sup> /s = emulsion / 20mm <sup>2</sup> /s = cutting oil with EP-additive																						
	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s			
Pressure [bar]	0	10	20	30	40	50	60	70	80	90	100												
20-28	Q	10.2	10.2	8.0	9.7	6.9	9.3	6.1	8.9	5.3	8.6	4.7	8.2	4.1	7.9	3.5	7.6	3.0	7.3	-	7.0	-	6.7
	P	0.1	0.1	0.3	0.3	0.4	0.4	0.6	0.6	0.8	0.8	1.0	1.0	1.1	1.1	1.3	1.3	1.5	1.5	-	1.6	-	1.8
20-38	Q	15.4	15.4	12.8	14.8	11.5	14.4	10.5	13.9	9.6	13.5	8.8	13.1	8.1	12.7	7.4	12.3	6.8	12.0	6.2	11.6	5.6	11.2
	P	0.1	0.1	0.4	0.4	0.6	0.6	0.9	0.9	1.1	1.1	1.4	1.4	1.7	1.7	1.9	1.9	2.2	2.2	2.4	2.4	2.7	2.7
20-46	Q	20.3	20.3	16.7	19.5	14.9	18.8	13.6	18.2	12.4	17.7	11.3	17.1	10.3	16.6	9.4	16.1	8.5	15.6	7.7	15.1	6.9	14.6
	P	0.1	0.1	0.4	0.4	0.8	0.8	1.1	1.1	1.5	1.5	1.8	1.8	2.1	2.1	2.5	2.5	2.8	2.8	3.2	3.2	3.5	3.5
20-56	Q	28.4	28.4	22.5	27.1	19.6	26.0	17.3	25.0	15.3	24.1	13.6	23.2	11.9	22.3	10.4	21.5	9.0	20.6	7.6	19.8	-	19.0
	P	0.1	0.1	0.6	0.6	1.1	1.1	1.5	1.5	2.0	2.0	2.5	2.5	3.0	3.0	3.4	3.4	3.9	3.9	4.4	4.4	-	4.8
40-38	Q	31.9	31.9	26.3	30.7	23.5	29.6	21.3	28.7	19.4	27.8	17.7	26.9	16.2	26.1	14.7	25.3	13.4	24.5	12.1	23.7	10.9	22.9
	P	0.3	0.3	0.7	0.8	1.2	1.3	1.7	1.9	2.3	2.4	2.8	2.9	3.3	3.5	3.9	4.0	4.4	4.5	4.9	5.0	5.5	5.6
40-46	Q	42.6	42.6	34.9	40.9	31.2	39.5	28.3	38.2	25.7	37.0	23.4	35.8	21.3	34.7	19.4	33.6	17.5	32.5	15.8	31.5	14.1	30.5
	P	0.3	0.3	0.8	1.0	1.6	1.7	2.3	2.4	3.0	3.1	3.7	3.8	4.4	4.5	5.1	5.2	5.8	5.9	6.5	6.6	7.2	7.4

#### EMTEC-C

Speed of Rotation: 1450 rpm      Capacity: Q [GPM]  
 Frequency: 50 Hz                      Power Required: P [BHP]

Viscosity [cSt]	1.2 cSt= emulsion / 20 cSt= cutting oil with EP-additive																						
	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt			
Pressure [psi]	0	145	290	435	580	725	870	1015	1160	1305	1450												
20-28	Q	2.7	2.7	2.1	2.6	1.8	2.4	1.6	2.4	1.4	2.3	1.2	2.2	1.1	2.1	0.9	2.0	0.8	1.9	-	1.8	-	1.8
	P	0.1	0.1	0.4	0.4	0.6	0.6	0.8	0.8	1.1	1.1	1.3	1.3	1.5	1.5	1.7	1.7	2.0	2.0	-	2.2	-	2.4
20-38	Q	4.1	4.1	3.4	3.9	3.0	3.8	2.8	3.7	2.5	3.6	2.3	3.5	2.1	3.4	2.0	3.3	1.8	3.2	1.6	3.1	1.5	3.0
	P	0.1	0.1	0.5	0.5	0.8	0.8	1.2	1.2	1.5	1.5	1.9	1.9	2.2	2.2	2.6	2.6	2.9	2.9	3.3	3.3	3.6	3.6
20-46	Q	5.4	5.4	4.4	5.1	3.9	5.0	3.6	4.8	3.3	4.7	3.0	4.5	2.7	4.4	2.5	4.2	2.2	4.1	2.0	4.0	1.8	3.9
	P	0.1	0.1	0.6	0.6	1.1	1.1	1.5	1.5	2.0	2.0	2.4	2.4	2.9	2.9	3.3	3.3	3.8	3.8	4.2	4.2	4.7	4.7
20-56	Q	7.5	7.5	5.9	7.2	5.2	6.9	4.6	6.6	4.0	6.4	3.6	6.1	3.2	5.9	2.8	5.7	2.4	5.5	2.0	5.2	-	5.0
	P	0.1	0.1	0.8	0.8	1.4	1.4	2.1	2.1	2.7	2.7	3.3	3.3	4.0	4.0	4.6	4.6	5.2	5.2	5.9	5.9	-	6.5
40-38	Q	8.4	8.4	6.9	8.1	6.2	7.8	5.6	7.6	5.1	7.3	4.7	7.1	4.3	6.9	3.9	6.7	3.5	6.5	3.2	6.3	2.9	6.1
	P	0.2	0.3	0.9	1.1	1.6	1.8	2.3	2.5	3.0	3.2	3.8	3.9	4.5	4.6	5.2	5.3	5.9	6.1	6.6	6.8	7.3	7.5
40-46	Q	11.2	11.2	9.2	10.8	8.2	10.4	7.5	10.1	6.8	9.8	6.2	9.5	5.6	9.2	5.1	8.9	4.6	8.6	4.2	8.3	3.7	8.0
	P	0.2	0.3	1.1	1.3	2.1	2.3	3.0	3.2	4.0	4.2	4.9	5.1	5.9	6.1	6.8	7.0	7.8	8.0	8.8	8.9	9.7	9.9

### PERFORMANCE TABLE

#### EMTEC-C

Speed of Rotation: 1750 1/min      Capacity: Q [l/min]  
 Frequency: 60 Hz                      Power Required: P [kW]

Viscosity [mm <sup>2</sup> /s]	1.2.2 mm <sup>2</sup> /s = emulsion / 20mm <sup>2</sup> /s = cutting oil with EP-additive																						
	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s			
Pressure [bar]	0	10	20	30	40	50	60	70	80	90	100												
20-28	Q	12.3	12.3	10.1	11.8	9.0	11.4	8.2	11.0	7.4	10.7	6.8	10.3	6.2	10.0	5.6	9.7	5.1	9.4	4.6	9.1	4.1	8.8
	P	0.1	0.1	0.4	0.4	0.6	0.6	0.8	0.8	1.0	1.0	1.2	1.2	1.4	1.4	1.6	1.6	1.8	1.8	2.0	2.0	2.2	2.2
20-38	Q	18.6	18.6	16.0	18.0	14.7	17.6	13.7	17.1	12.8	16.7	12.0	16.3	11.3	15.9	10.6	15.5	10.0	15.2	9.4	14.8	8.8	14.4
	P	0.1	0.1	0.5	0.5	0.8	0.8	1.1	1.1	1.4	1.4	1.7	1.7	2.0	2.0	2.3	2.3	2.6	2.6	2.9	2.9	3.2	3.2
20-46	Q	24.5	24.5	20.9	23.7	19.1	23.0	17.8	22.4	16.6	21.9	15.5	21.3	14.5	20.8	13.6	20.3	12.7	19.8	11.9	19.3	11.1	18.8
	P	0.1	0.1	0.6	0.6	1.0	1.0	1.4	1.4	1.8	1.8	2.2	2.2	2.6	2.6	3.0	3.0	3.4	3.4	3.8	3.8	4.2	4.2
20-56	Q	34.3	34.3	28.4	33.0	25.5	31.9	23.2	30.9	21.2	30.0	19.4	29.1	17.8	28.2	16.3	27.4	14.9	26.5	13.5	25.7	12.2	24.9
	P	0.1	0.1	0.7	0.7	1.3	1.3	1.9	1.9	2.4	2.4	3.0	3.0	3.6	3.6	4.1	4.1	4.7	4.7	5.3	5.3	5.9	5.9
40-38	Q	38.5	38.5	32.9	37.3	30.1	36.2	27.9	35.3	26.0	34.4	24.3	33.6	22.8	32.7	21.3	31.9	20.0	31.1	18.7	30.3	17.5	29.6
	P	0.2	0.3	0.8	1.0	1.5	1.6	2.1	2.3	2.8	2.9	3.4	3.6	4.0	4.2	4.7	4.8	5.3	5.5	6.0	6.1	6.6	6.8
40-46	Q	51.4	51.4	43.7	49.7	40.0	48.3	37.1	47.0	34.5	45.8	32.2	44.7	30.1	43.5	28.2	42.4	26.3	41.4	24.6	40.3	22.9	39.3
	P	0.2	0.3	1.0	1.2	1.9	2.1	2.8	2.9	3.6	3.8	4.5	4.6	5.3	5.5	6.2	6.3	7.0	7.2	7.9	8.1	8.7	8.9

#### EMTEC-C

Speed of Rotation: 1750 rpm      Capacity: Q [GPM]  
 Frequency: 60 Hz                      Power Required: P [BHP]

Viscosity [cSt]	1.2 cSt= emulsion / 20 cSt= cutting oil with EP-additive																						
	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt			
Pressure [psi]	0	145	290	435	580	725	870	1015	1160	1305	1450												
20-28	Q	3.2	3.2	2.7	3.1	2.4	3.0	2.2	2.9	2.0	2.8	1.8	2.7	1.6	2.6	1.5	2.6	1.3	2.5	1.2	2.4	1.1	2.3
	P	0.2	0.2	0.5	0.5	0.7	0.7	1.0	1.0	1.3	1.3	1.6	1.6	1.8	1.8	2.1	2.1	2.4	2.4	2.7	2.7	2.9	2.9
20-38	Q	4.9	4.9	4.2	4.8	3.9	4.6	3.6	4.5	3.4	4.4	3.2	4.3	3.0	4.2	2.8	4.1	2.6	4.0	2.5	3.9	2.3	3.8
	P	0.2	0.2	0.6	0.6	1.0	1.0	1.4	1.4	1.9	1.9	2.3	2.3	2.7	2.7	3.1	3.1	3.5	3.5	3.9	3.9	4.4	4.4
20-46	Q	6.5	6.5	5.5	6.3	5.1	6.1	4.7	5.9	4.4	5.8	4.1	5.6	3.8	5.5	3.6	5.4	3.4	5.2	3.1	5.1	2.9	5.0
	P	0.2	0.2	0.7	0.7	1.3	1.3	1.8	1.8	2.4	2.4	2.9	2.9	3.5	3.5	4.0	4.0	4.6	4.6	5.1	5.1	5.7	5.7
20-56	Q	9.1	9.1	7.5	8.7	6.7	8.4	6.1	8.2	5.6	7.9	5.1	7.7	4.7	7.5	4.3	7.2	3.9	7.0	3.6	6.8	3.2	6.6
	P	0.2	0.2	1.0	1.0	1.7	1.7	2.5	2.5	3.3	3.3	4.0	4.0	4.8	4.8	5.6	5.6	6.3	6.3	7.1	7.1	7.9	7.9
40-38	Q	10.2	10.2	8.7	9.8	8.0	9.6	7.4	9.3	6.9	9.1	6.4	8.9	6.0	8.6	5.6	8.4	5.3	8.2	4.9	8.0	4.6	7.8
	P	0.2	0.5	1.1	1.3	2.0	2.2	2.8	3.0	3.7	3.9	4.6	4.8	5.4	5.6	6.3	6.5	7.1	7.4	8.0	8.2	8.9	9.1
40-46	Q	13.6	13.6	11.6	13.1	10.6	12.8	9.8	12.4	9.1	12.1	8.5	11.8	8.0	11.5	7.4	11.2	7.0	10.9	6.5	10.6	6.1	10.4
	P	0.2	0.5	1.4	1.6	2.5	2.8	3.7	3.9	4.8	5.1	6.0	6.2	7.1	7.4	8.3	8.5	9.4	9.6	10.6	10.8	11.7	11.9

## PERFORMANCE TABLE

### EMTEC-C

Speed of Rotation: 2950 1/min                      Capacity :                      Q [l/min]  
 Frequency: 50 Hz    Power Required:                      P [kW]

Viscosity [mm <sup>2</sup> /s]	1.2 mm <sup>2</sup> /s = emulsion / 20mm <sup>2</sup> /s = cutting oil with EP-additive																						
	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s			
Pressure [bar]	0		10		20		30		40		50		60		70		80		90		100		
20-28	Q	20.7	20.7	18.5	20.2	17.4	19.8	16.6	19.4	15.9	19.1	15.2	18.8	14.6	18.4	14.0	18.1	13.5	17.8	13.0	17.5	12.5	17.2
	P	0.3	0.3	0.7	0.7	1.0	1.0	1.4	1.4	1.7	1.7	2.0	2.0	2.4	2.4	2.7	2.7	3.1	3.1	3.4	3.4	3.8	3.8
20-38	Q	31.4	31.4	28.7	30.8	27.4	30.3	26.4	29.9	25.5	29.5	24.7	29.1	23.9	28.7	23.3	28.3	22.6	27.9	22.0	27.6	21.4	27.2
	P	0.3	0.3	0.8	0.8	1.4	1.4	1.9	1.9	2.4	2.4	2.9	2.9	3.5	3.5	4.0	4.0	4.5	4.5	5.0	5.0	5.6	5.6
20-46	Q	41.3	41.3	37.8	40.5	36.0	39.9	34.7	39.3	33.5	38.7	32.4	38.2	31.4	37.7	30.5	37.2	29.6	36.7	28.8	36.2	28.0	35.7
	P	0.3	0.3	1.0	1.0	1.7	1.7	2.4	2.4	3.1	3.1	3.8	3.8	4.4	4.4	5.1	5.1	5.8	5.8	6.5	6.5	7.2	7.2
20-56	Q	57.8	57.8	52.0	56.5	49.1	55.5	46.8	54.5	44.8	53.6	43.0	52.7	41.4	51.8	39.8	51.0	38.4	50.2	37.0	49.4	35.7	48.6
	P	0.3	0.3	1.3	1.3	2.2	2.2	3.2	3.2	4.2	4.2	5.1	5.1	6.1	6.1	7.1	7.1	8.0	8.0	9.0	9.0	10.0	10.0
40-38	Q	65.0	65.0	59.4	63.7	56.6	62.7	54.4	61.8	52.5	60.9	50.8	60.1	49.2	59.2	47.8	58.4	46.4	57.6	45.1	56.9	43.8	56.1
	P	0.4	0.8	1.5	1.8	2.6	2.9	3.7	4.0	4.7	5.1	5.8	6.2	6.9	7.3	8.0	8.3	9.1	9.4	10.2	10.5	11.2	11.6
40-46	Q	86.6	86.6	79.1	84.9	75.4	83.6	72.4	82.3	69.8	81.1	67.5	80.0	65.4	78.9	63.5	77.8	61.6	76.7	59.8	75.7	58.2	74.7
	P	0.4	0.8	1.8	2.2	3.3	3.6	4.7	5.1	6.2	6.5	7.6	8.0	9.1	9.4	10.5	10.9	12.0	12.3	13.4	13.7	14.8	15.2

### EMTEC-C

Speed of Rotation: 2950 rpm                      Capacity:                      Q [GPM]  
 Frequency: 50 Hz    Power Required:                      P [BHP]

Viscosity [cSt]	1.2 cSt= emulsion / 20 cSt= cutting oil with EP-additives																						
	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt			
Pressure [psi]	0		145		290		435		580		725		870		1015		1160		1305		1450		
20-28	Q	5.5	5.5	4.9	5.3	4.6	5.2	4.4	5.1	4.2	5.0	4.0	4.9	3.9	4.9	3.7	4.8	3.6	4.7	3.4	4.6	3.3	4.5
	P	0.4	0.4	0.9	0.9	1.4	1.4	1.8	1.8	2.3	2.3	2.7	2.7	3.2	3.2	3.7	3.7	4.1	4.1	4.6	4.6	5.0	5.0
20-38	Q	8.3	8.3	7.6	8.1	7.3	8.0	7.0	7.9	6.8	7.8	6.5	7.7	6.4	7.6	6.2	7.5	6.0	7.4	5.8	7.3	5.7	7.2
	P	0.4	0.4	1.1	1.1	1.8	1.8	2.5	2.5	3.2	3.2	3.9	3.9	4.6	4.6	5.3	5.3	6.0	6.0	6.7	6.7	7.4	7.4
20-46	Q	10.9	10.9	10.0	10.7	9.5	10.5	9.1	10.4	8.8	10.2	8.5	10.1	8.3	9.9	8.0	9.8	7.8	9.7	7.6	9.5	7.4	9.4
	P	0.4	0.4	1.4	1.4	2.3	2.3	3.2	3.2	4.1	4.1	5.0	5.0	6.0	6.0	6.9	6.9	7.8	7.8	8.7	8.7	9.7	9.7
20-56	Q	15.3	15.3	13.7	14.9	12.9	14.6	12.3	14.4	11.8	14.1	11.3	13.9	10.9	13.7	10.5	13.4	10.1	13.2	9.8	13.0	9.4	12.8
	P	0.4	0.4	1.7	1.7	3.0	3.0	4.3	4.3	5.6	5.6	6.9	6.9	8.2	8.2	9.5	9.5	10.8	10.8	12.1	12.1	13.4	13.4
40-38	Q	17.2	17.2	15.7	16.8	14.9	16.6	14.4	16.3	13.9	16.1	13.4	15.8	13.0	15.6	12.6	15.4	12.3	15.2	11.9	15.0	11.6	14.8
	P	0.5	1.0	2.0	2.5	3.4	3.9	4.9	5.4	6.4	6.8	7.8	8.3	9.3	9.7	10.7	11.2	12.2	12.6	13.6	14.1	15.1	15.5
40-46	Q	22.9	22.9	20.9	22.4	19.9	22.1	19.1	21.7	18.4	21.4	17.8	21.1	17.3	20.8	16.7	20.5	16.3	20.2	15.8	20.0	15.4	19.7
	P	0.5	1.0	2.5	2.9	4.4	4.9	6.4	6.8	8.3	8.8	10.2	10.7	12.2	12.6	14.1	14.6	16.0	16.5	18.0	18.4	19.9	20.4

## PERFORMANCE TABLE

### EMTEC-C

Speed of Rotation: 3550 1/min                      Capacity:                      Q [l/min]  
 Frequency: 60 Hz    Power Required:                      P [kW]

Viscosity [mm <sup>2</sup> /s]	1.2 mm <sup>2</sup> /s = emulsion / 20mm <sup>2</sup> /s = cutting oil with EP-additive																						
	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s	1.2 mm <sup>2</sup> /s	20 mm <sup>2</sup> /s			
Pressure [bar]	0		10		20		30		40		50		60		70		80		90		100		
20-28	Q	24.9	24.9	22.7	24.4	21.6	24.0	20.8	23.6	20.0	23.3	19.4	22.9	18.8	22.6	18.2	22.3	17.7	22.0	17.2	21.7	16.7	21.4
	P	0.4	0.4	0.8	0.8	1.2	1.2	1.7	1.7	2.1	2.1	2.5	2.5	2.9	2.9	3.3	3.3	3.7	3.7	4.1	4.1	4.6	4.6
20-38	Q	37.8	37.8	35.1	37.2	33.8	36.7	32.8	36.3	31.9	35.9	31.1	35.5	30.4	35.1	29.7	34.7	29.1	34.3	28.5	33.9	27.9	33.6
	P	0.4	0.4	1.1	1.1	1.7	1.7	2.3	2.3	2.9	2.9	3.6	3.6	4.2	4.2	4.8	4.8	5.5	5.5	6.1	6.1	6.7	6.7
20-46	Q	49.7	49.7	46.1	48.9	44.3	48.2	43.0	47.6	41.8	47.1	40.7	46.5	39.7	46.0	38.8	45.5	37.9	45.0	37.1	44.5	36.3	44.0
	P	0.4	0.4	1.2	1.2	2.1	2.1	2.9	2.9	3.7	3.7	4.6	4.6	5.4	5.4	6.2	6.2	7.0	7.0	7.9	7.9	8.7	8.7
20-56	Q	69.6	69.6	63.6	68.3	60.8	67.2	58.5	66.2	56.5	65.3	54.7	64.4	53.1	63.5	51.6	62.6	50.1	61.8	48.8	61.0	47.5	60.2
	P	0.4	0.4	1.6	1.6	2.7	2.7	3.9	3.9	5.1	5.1	6.2	6.2	7.4	7.4	8.5	8.5	9.7	9.7	10.9	10.9	12.0	12.0
40-38	Q	78.2	78.2	72.5	76.9	69.8	75.9	67.6	74.9	65.7	74.1	64.0	73.2	62.4	72.4	61.0	71.5	59.6	70.7	58.3	70.0	57.1	69.2
	P	0.5	1.0	1.8	2.3	3.1	3.6	4.4	4.9	5.7	6.2	7.1	7.5	8.4	8.8	9.7	10.1	11.0	11.4	12.3	12.7	13.6	14.0
40-46	Q	104.2	104.2	96.6	102.5	92.9	101.1	89.9	99.9	87.4	98.7	85.1	97.5	83.0	96.4	81.0	95.3	79.2	94.2	77.4	93.1	75.8	92.1
	P	0.5	1.0	2.3	2.7	4.0	4.5	5.7	6.2	7.5	7.9	9.2	9.7	11.0	11.4	12.7	13.2	14.4	14.9	16.2	16.6	17.9	18.4

### EMTEC-C

Speed of Rotation: 3550 rpm                      Capacity:                      Q [GPM]  
 Frequency: 60 Hz    Power Required:                      P [BHP]

Viscosity [cSt]	1.2 cSt= emulsion / 20 cSt= cutting oil with EP-additive																						
	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt	1.2 cSt	20 cSt			
Pressure [psi]	0		145		290		435		580		725		870		1015		1160		1305		1450		
20-28	Q	6.6	6.6	6.0	6.4	5.7	6.4	5.5	6.3	5.3	6.3	5.1	6.2	5.0	6.2	4.8	6.2	4.7	6.1	4.5	6.1	4.4	6.1
	P	0.6	0.4	1.1	1.1	1.7	1.7	2.2	2.2	2.8	2.8	3.3	3.3	3.9	3.9	4.5	4.5	5.0	5.0	5.6	5.6	6.1	6.1
20-38	Q	10.0	10.0	9.3	9.8	8.9	9.7	8.7	9.7	8.4	9.6	8.2	9.6	8.0	9.5	7.9	9.5	7.7	9.5	7.5	9.4	7.4	9.4
	P	0.6	0.4	1.4	1.4	2.3	2.3	3.1	3.1	3.9	3.9	4.8	4.8	5.6	5.6	6.5	6.5	7.3	7.3	8.2	8.2	9.0	9.0
20-46	Q	13.1	13.1	12.2	12.9	11.7	12.8	11.3	12.7	11.0	12.7	10.7	12.6	10.5	12.5	10.2	12.5	10.0	12.4	9.8	12.4	9.6	12.3
	P	0.6	0.4	1.7	1.7	2.8	2.8	3.9	3.9	5.0	5.0	6.1	6.1	7.2	7.2	8.3	8.3	9.5	9.5	10.6	10.6	11.7	11.7
20-56	Q	18.4	18.4	16.8	18.0	16.1	17.9	15.4	17.7	14.9	17.6	14.5	17.5	14.0	17.4	13.6	17.3	13.2	17.2	12.9	17.2	12.6	17.1
	P	0.6	0.4	2.1	2.1	3.7	3.7	5.2	5.2	6.8	6.8	8.3	8.3	9.9	9.9	11.5	11.5	13.0	13.0	14.6	14.6	16.1	16.1
40-38	Q	20.7	20.7	19.2	20.3	18.4	20.2	17.8	20.0	17.3	19.9	16.9	19.8	16.5	19.7	16.1	19.6	15.7	19.6	15.4	19.5	15.1	19.4
	P	0.7	1.0	2.5	3.1	4.2	4.8	6.0	6.6	7.7	8.3	9.5	10.1	11.2	11.8	12.9	13.6	14.7	15.3	16.4	17.1	18.2	18.8
40-46	Q	27.5	27.5	25.5	27.1	24.5	26.9																





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