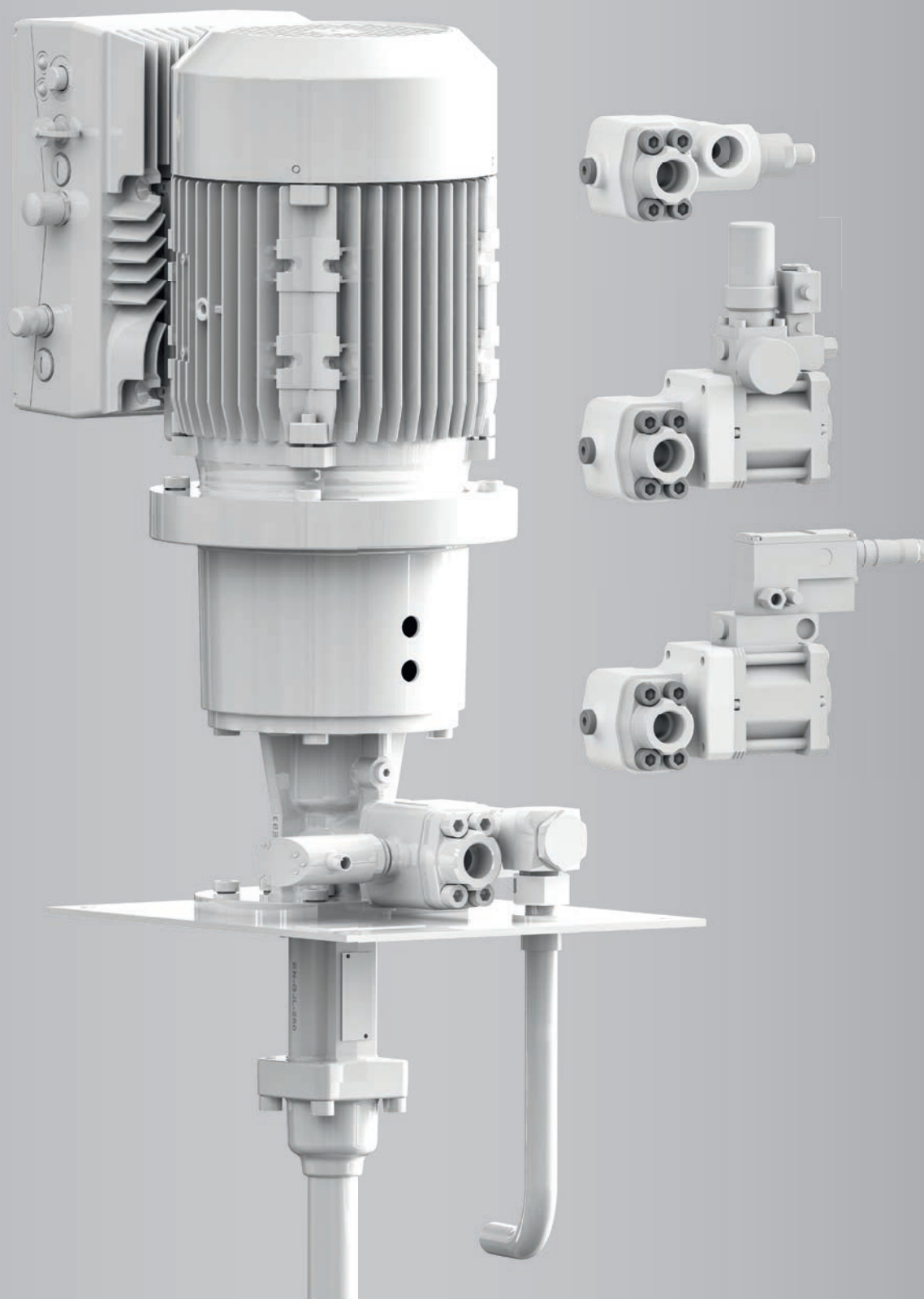


Screw pump KTSL

KNOLL
.It works

Issue 07-2023



Properties

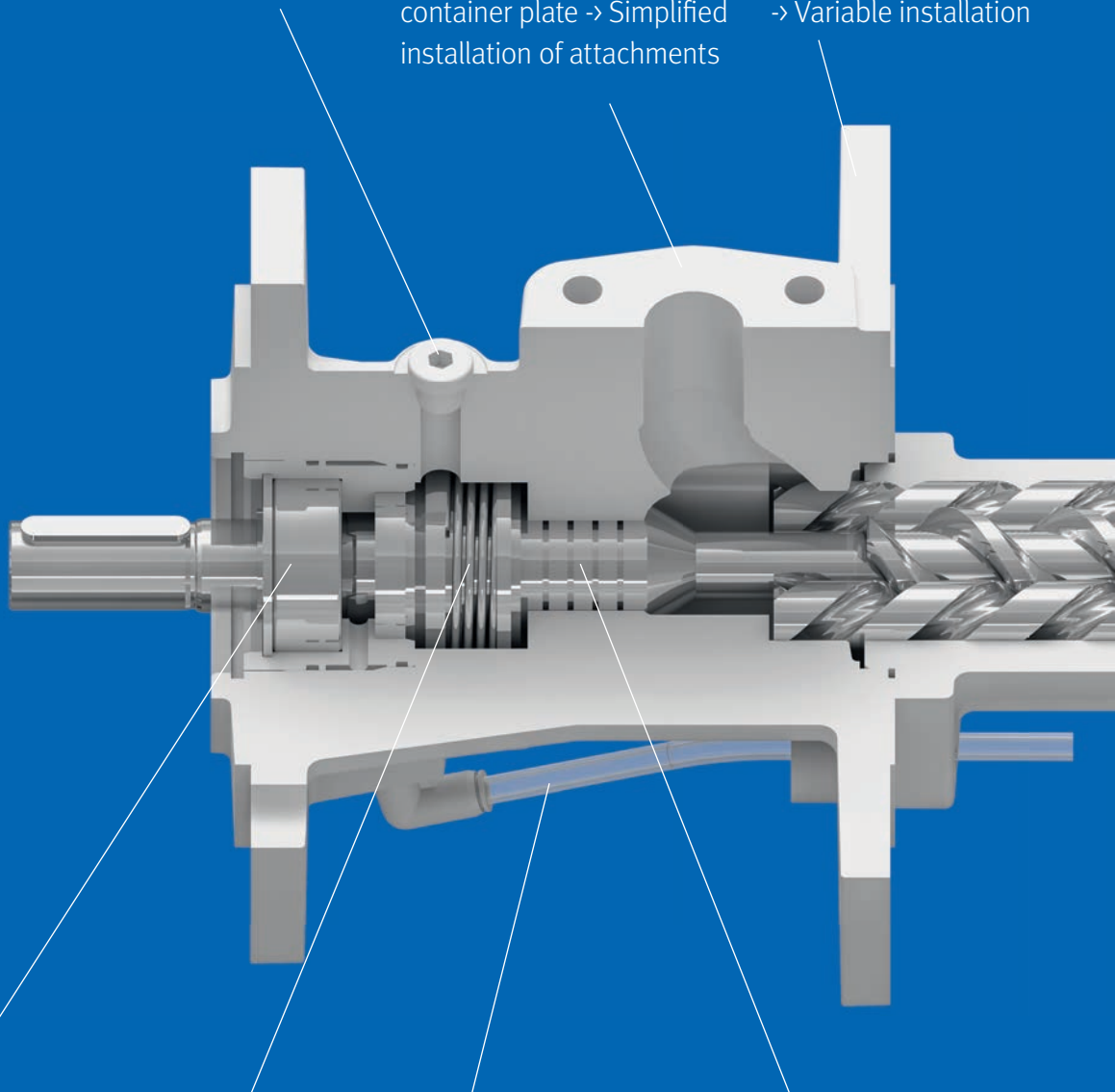
- Fewer pipes required
- Compact design
- Easy to service
- Long service life
- Good price/performance ratio

Design features

Opening for ventilation,
filling and emptying

SAE connection option on
the pressure side above the
container plate -> Simplified
installation of attachments

Integrated
installation flange
-> Variable installation



External main bearing
-> Long service life

Wear-resistant
mechanical seal
-> Long service life

Visual inspection
for leak

Labyrinth for effective
pressure reduction
-> High efficiency

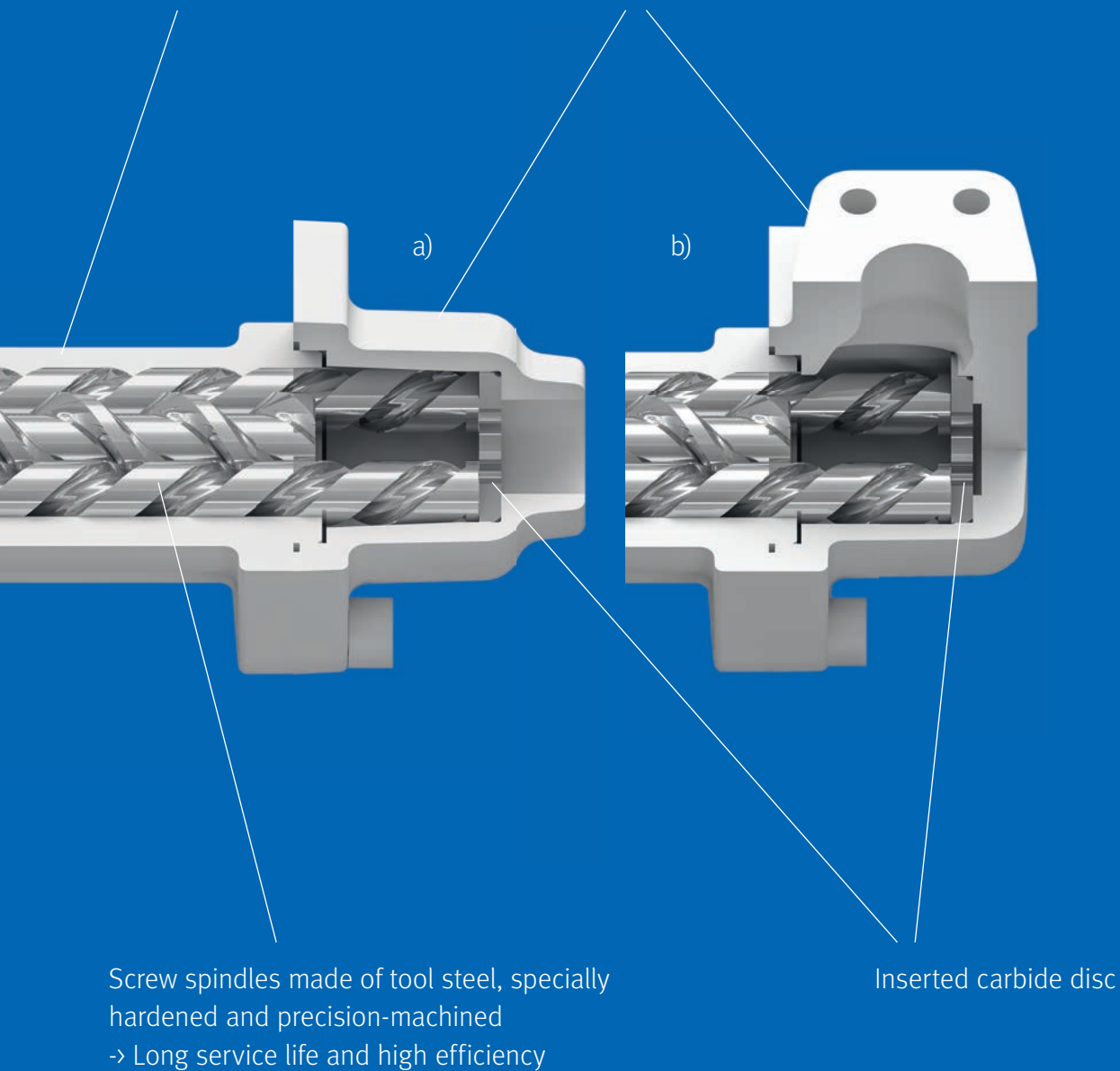
Layout

The KTSL screw pump is a self-priming displacement pump for conveying lubricating, less abrasive media such as cooling lubricants. The pump comprises 3 main components:

1. Suction casing, 2. Running casing with drive spindle and two running spindles, 3. Pressure casing with throttling point, sealed shaft passage and main bearing.

Single-part running casing made of grey cast iron, specially hardened and precision-machined -> Long service life

Suction casing with
a) Axial suction option for tank installation
b) SAE connection option at the side, 90°-rotatable, for dry installation

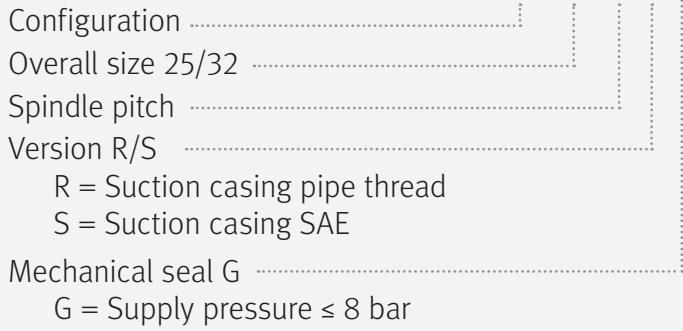


Screw spindles made of tool steel, specially hardened and precision-machined -> Long service life and high efficiency

Inserted carbide disc

Type designation code

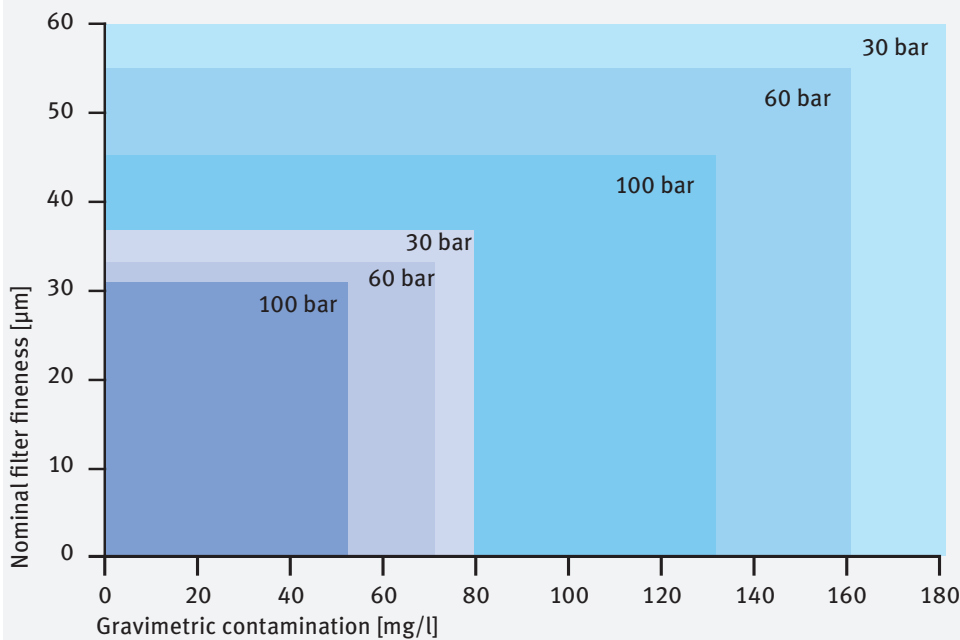
KTSL 25-50-R-G



Basic equipment

	Type	KTSL 25	KTSL 32
Axial face seal One-piece cast iron spindle housing Suction housing with axial suction option	R-G	●	●
Axial face seal One-piece cast iron spindle housing Suction housing with side SAE connection option	S-G	●	●

Recommended filter quality



Hard particles

500 – 1,000 HV

e.g., hardened steels, cast materials with aggregates, AL with high Si content (< 8%)
 abrasive: CBN/diamond

Soft particles

< 500 HV

e.g., unhardened steels, GG, non-ferrous metals

		Grinding*		Turning, milling, drilling		Turning, milling, drilling	
		Emulsion	Oil	Emulsion	Oil	Emulsion	Oil
KTSL	R-G	-	-	60	80	80	100
KTSL	S-G	-	-	60	80	80	100

The specifications relate to the determination of the gravimetric contamination with a 5 µm cellulose membrane in 100 ml sample quantity.

* No grinding applications

Design

All pumps are available in a submersible version for vertical installation (usually in containers) and in a foot version for horizontal or vertical dry installation.

KTSL pumps can also be fitted with PQ-Tronic speed regulation as an option.

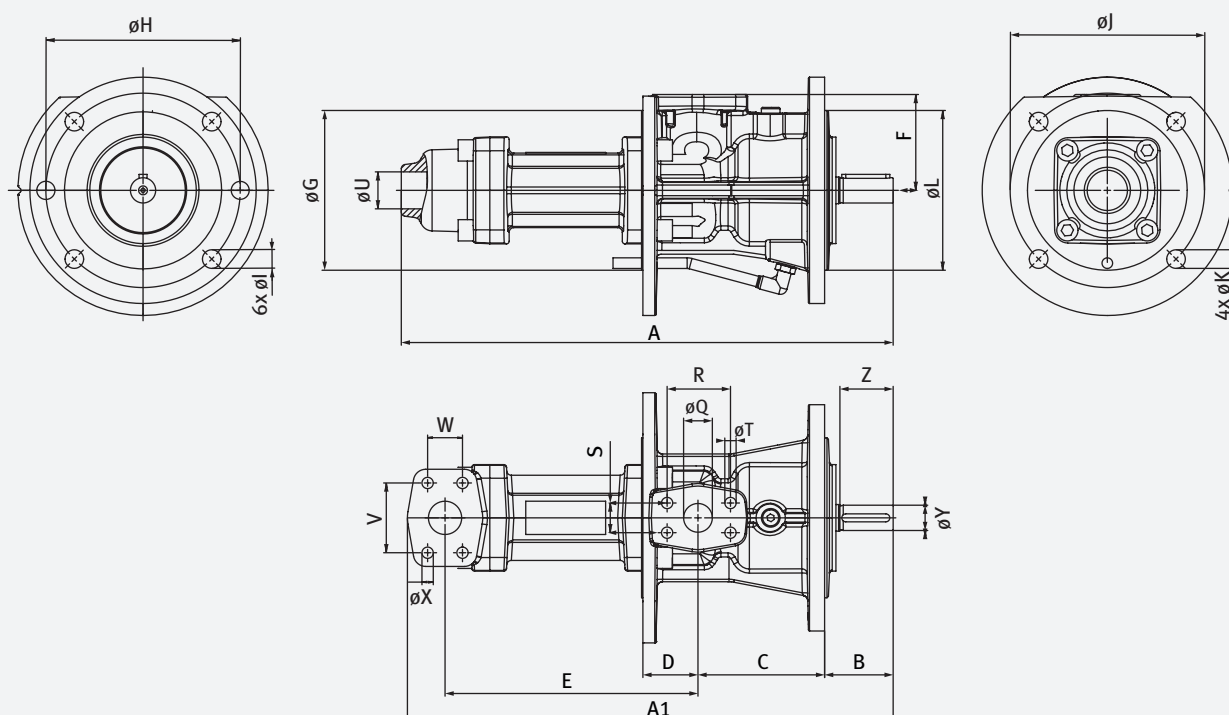
Check

Precision based on checking rules

$Q > 100$ l/min VDMA 24284, Class II, Group II

$Q \leq 100$ l/min KNOLL specification

Screw pump dimensions



Pump size KTSL	Pump dimensions [mm]												
	A	A1	B	C	D	E	F	G	H	I	J	K	L
25	370	365	52	95	42	190	72	120	146	14	146	14	120
32	450	440	52	119	42	231	72	150	146	14	185	14	120
	Pressure connection [mm]				Suction connection [mm]				Shaft end [mm]		Weight [kg]		
	Q	R	S	T	U	V	W	X	Y	Z			
25	G 3/4	47,7	22,3	M10	G1	52,4	26,2	M10	19	40	12		
32	G 3/4	52,4	26,2	M10	G 1 1/2	69,9	35,7	M12	24	40	22		

Performance data

			Pressure [bar]									
Motor 2-pole, speed 2.900 min ⁻¹ , 50 Hz			10	20	30	40	50	60	70	80	90	100
KTSL 25-34	Q [l/min]	1 mm ² /s	26,6	25,4	24,2	23,1	22,0	21,0	20,1	19,2	18,4	17,6
		20 mm ² /s	27,5	26,6	25,7	24,9	24,2	23,5	22,9	22,3	21,8	20,9
	P [kW]	1-20 mm ² /s	0,7	1,2	1,8	2,3	2,8	3,4	3,9	4,5	5,0	5,6
KTSL 25-38	Q [l/min]	1 mm ² /s	29,7	28,7	27,7	26,8	25,9	25,0	24,2	23,4	22,7	22,0
		20 mm ² /s	30,4	29,8	29,3	28,9	28,4	28,0	27,6	27,2	26,8	26,5
	P [kW]	1-20 mm ² /s	0,7	1,3	1,9	2,5	3,1	3,7	4,3	4,9	5,5	6,1
KTSL 25-50	Q [l/min]	1 mm ² /s	38,5	37,2	36,0	34,8	33,7	32,6	31,6	30,6	29,7	28,9
		20 mm ² /s	39,7	39,0	38,4	37,8	37,2	36,7	36,2	35,7	35,3	34,8
	P [kW]	1-20 mm ² /s	1,0	1,7	2,5	3,3	4,0	4,8	5,6	6,3	7,1	7,9
KTSL 25-60	Q [l/min]	1 mm ² /s	45,2	43,8	42,3	41,0	39,8	39,6	37,5	36,4	35,5	34,6
		20 mm ² /s	47,1	46,3	45,6	45,0	44,3	43,8	43,2	42,7	42,2	41,8
	P [kW]	1-20 mm ² /s	1,1	2,0	3,0	4,0	5,0	5,9	6,9	7,9	8,8	9,8
KTSL 32-48	Q [l/min]	1 mm ² /s	58,5	56,6	54,8	53,1	51,5	49,9	48,5	47,2	45,9	44,8
		20 mm ² /s	61,3	60,4	59,5	58,6	57,8	57,0	56,3	55,7	55,0	54,5
	P [kW]	1-20 mm ² /s	1,4	2,5	3,7	4,8	6,0	7,2	8,3	9,5	10,6	11,8
KTSL 32-64	Q [l/min]	1 mm ² /s	79,4	77,2	75,0	72,9	70,9	69,0	67,2	65,5	63,8	62,3
		20 mm ² /s	82,5	81,4	80,3	79,2	78,2	77,3	76,4	75,5	74,7	73,9
	P [kW]	1-20 mm ² /s	1,9	3,5	5,0	6,6	8,1	9,7	11,3	12,8	14,4	15,9
KTSL 32-76	Q [l/min]	1 mm ² /s	92,4	90,2	87,9	85,8	83,8	81,8	79,9	78,0	76,3	74,6
		20 mm ² /s	97,0	95,9	94,8	93,7	92,7	91,7	90,7	89,8	88,9	88,1
	P [kW]	1-20 mm ² /s	2,3	4,2	6,0	7,9	9,7	11,6	13,4	15,3	17,1	19,0
Motor 2-pole, speed 3.500 min ⁻¹ , 60 Hz												
KTSL 25-34	Q [l/min]	1 mm ² /s	32,6	31,4	30,2	29,0	27,9	26,9	25,9	25,0	24,1	23,3
		20 mm ² /s	33,5	32,6	31,7	30,9	30,1	29,4	28,8	28,2	27,7	26,8
	P [kW]	1-20 mm ² /s	0,8	1,5	2,1	2,7	3,4	4,0	4,7	5,3	5,9	6,6
KTSL 25-38	Q [l/min]	1 mm ² /s	36,1	35,1	34,1	33,2	32,2	31,4	30,6	29,8	29,1	28,4
		20 mm ² /s	36,8	36,3	35,8	35,3	34,8	34,4	34,0	33,6	33,3	32,9
	P [kW]	1-20 mm ² /s	0,8	1,6	2,3	3,0	3,7	4,5	5,2	5,9	6,6	7,4
KTSL 25-50	Q [l/min]	1 mm ² /s	47,0	45,7	44,4	43,2	42,1	41,0	40,0	39,1	38,2	37,3
		20 mm ² /s	48,1	47,4	46,8	46,2	45,7	45,1	44,6	44,1	43,7	43,3
	P [kW]	1-20 mm ² /s	1,1	2,1	3,0	3,9	4,9	5,8	6,7	7,7	8,6	9,5
KTSL 25-60	Q [l/min]	1 mm ² /s	55,4	53,9	52,5	51,1	49,9	48,7	47,6	46,6	45,6	44,7
		20 mm ² /s	57,2	56,5	55,8	55,1	54,5	53,9	53,3	52,8	52,3	51,9
	P [kW]	1-20 mm ² /s	1,3	2,5	3,6	4,8	6,0	7,1	8,3	9,5	10,7	11,8
KTSL 32-48	Q [l/min]	1 mm ² /s	71,8	69,9	68,1	66,3	64,7	63,2	61,8	60,4	59,2	58,1
		20 mm ² /s	74,6	73,6	72,7	71,9	71,1	70,3	69,6	68,9	68,3	67,7
	P [kW]	1-20 mm ² /s	1,6	3,0	4,4	5,8	7,2	8,6	10,0	11,4	12,8	14,2
KTSL 32-64	Q [l/min]	1 mm ² /s	98,1	94,9	92,7	90,6	88,6	86,7	84,9	83,2	81,5	80,0
		20 mm ² /s	100	99,0	98,0	96,9	95,9	95,0	94,1	93,2	92,4	91,6
	P [kW]	1-20 mm ² /s	2,3	4,2	6,1	7,9	9,8	11,7	13,6	15,5	17,4	19,2
KTSL 32-76	Q [l/min]	1 mm ² /s	113,0	111,0	109,0	107,0	105,0	103,0	101,0	99,0	97,3	95,6
		20 mm ² /s	118,0	117,0	116,0	115,0	114,0	113,0	112,0	111,0	110,0	109,0
	P [kW]	1-20 mm ² /s	2,8	5,0	7,2	9,5	11,7	13,9	16,2	18,4	20,6	22,9

4-pole on request

Valve block with uncontrolled pressure relief valve DBD (adjustable with tool)



KTSL size	Type	Pressure [bar]	Flow rate Q_{\max} [l/min]	Connection thread	SAE size
25	B-DBD040	10-30	60	G 3/4	3/4
25	B-DBD085	20-60	60	G 3/4	3/4
25	B-DBD130	50-110	60	G 3/4	3/4
32	B-DBD040	10-30	60	G 3/4	1
32	B-DBD085	20-60	60	G 3/4	1
32	B-DBD130	50-110	60	G 3/4	1

Valve block with pneumatically controlled pressure relief valve HPB (manually adjustable)



KTSL size	Type	Pressure [bar]	Flow rate Q_{\max} [l/min]	Connection thread	SAE size
25	3-HPB-H-15-MV	5-120	100	G 1	3/4
32	3-HPB-H-15-MV	5-120	100	G 1	1

Valve block with pneumatically controlled pressure relief valve SPB (electronically controlled)

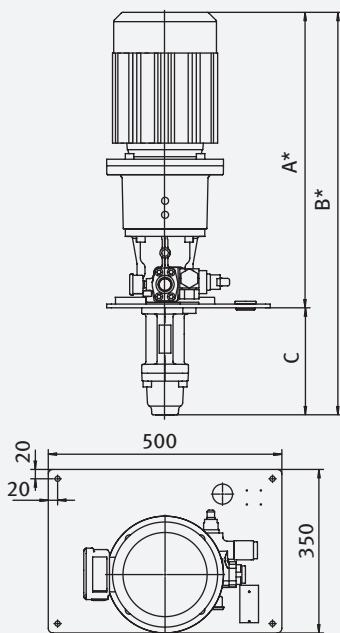


KTSL size	Type	Pressure [bar]	Flow rate Q_{\max} [l/min]	Connection thread	SAE size
25	SPB-H-15-MV	5-120	100	G 1	3/4
32	SPB-H-15-MV	5-120	100	G 1	1

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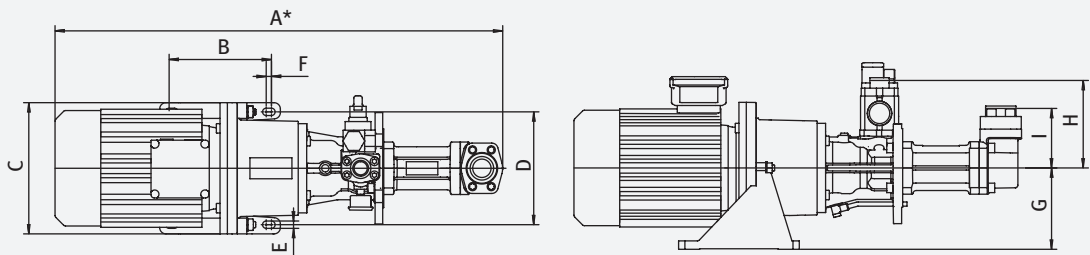
KTSL

Dimensions of screw pump with motor



Submersible version for vertical installation

Pump size KTSL	Motor size	Key dimensions [mm]			Weight [kg]
		A*	B*	C	
25	90L	619	795	177	41
	100L	585	762	177	44
	112M	605	782	177	54
	132S	662	838	177	63
	132M	682	858	177	69
	160M	824	1000	177	98
32	100L	613	842	229	60
	112M	633	862	229	70
	132S	589	918	229	79
	132M	709	938	229	85
	160M	851	1080	229	113/125
	160L	851	1080	229	132
	180M	911	1140	229	208



Foot version for horizontal or vertical dry installation

Pump size KTSL	Motor size	Key dimensions [mm]									Weight [kg]
		A*	B	C	D	E	F	G	H	I	
25	90L	790	60	200	180	11	11	112	155	77	38
	100L	757	195	250	215	14	10	155	155	77	42
	112M	777	195	250	215	14	10	155	155	77	52
	132S	833	235	300	265	14	10	185	155	77	62
	132M	853	235	300	265	14	10	185	155	77	68
	160M	996	277	350	300	14	12	235	155	77	97
32	100L	853	195	250	215	17,5	10	155	155	77	54
	112M	853	195	250	215	14	10	155	155	77	65
	132S	910	235	300	265	14	10	185	155	77	73
	132M	930	235	300	265	14	10	185	155	77	79
	160M	1075	277	350	300	17,5	12	235	155	77	109/120
	160L	1075	277	350	300	17,5	12	235	155	77	127
	180M	1120	277	350	300	17,5	12	235	155	77	203

*Depending on motor version, deviating dimensions are possible