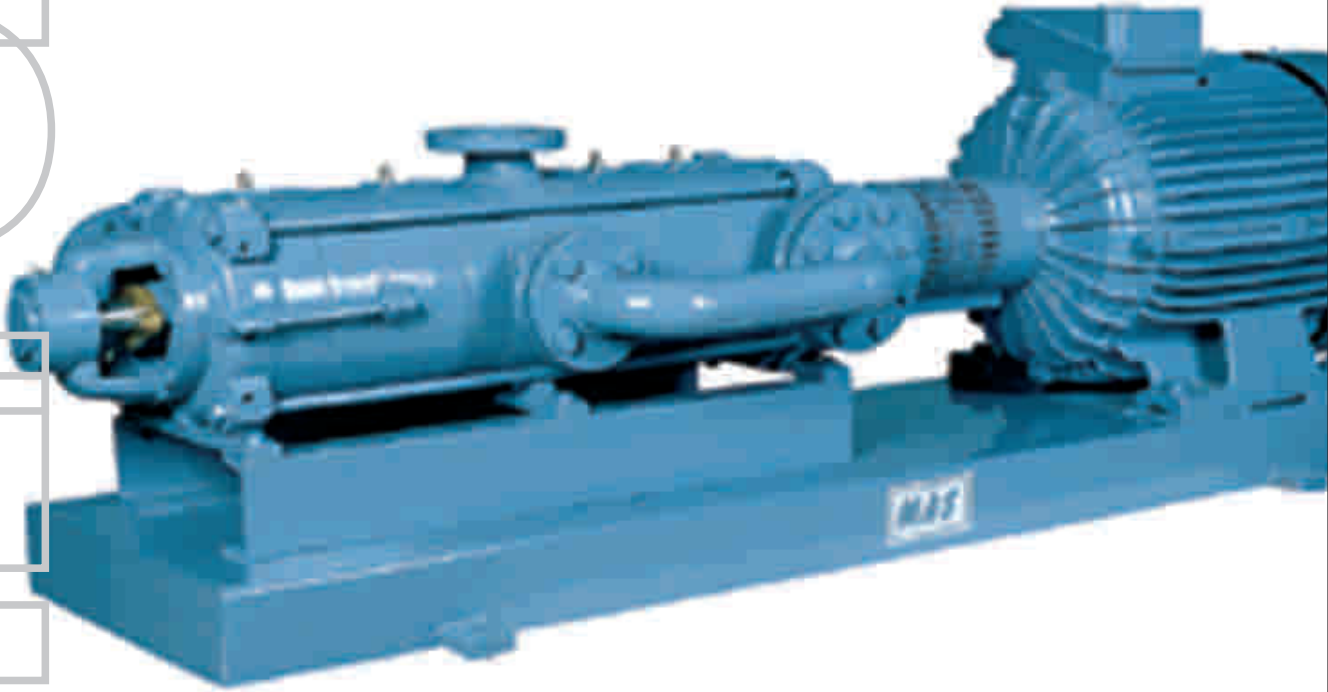


# high pressure-opposed impeller multistage pumps

KALITEPOMPA

**MAS**<sup>®</sup>

# KMK



## KMK - Series (2900 rpm)

For water supply, boosting, boiler feed applications.

Automatically balanced axial thrust thanks to back to back mounted impellers.

Suitable for slightly sand contaminated waters where axial thrust disc can not be used.

Capacity up to 130 m<sup>3</sup>/h - Total head up to 600 m.

MAS Pompa Sanayii A.Şi.

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# general specifications

## Fields of Application

- Water Supply
- Booster sets in high rise buildings and industry
- Water treatment.
- Industrial washdown systems.
- Boiler feed and condensate transfer.
- Reverse osmosis plants.
- For industrial applications and public services.

## Pumped Liquids

Thin, clean, non-aggressive and non-explosive liquids free from solid particles or fibres.  
For special applications, please consult to MAS

## Design

The KMK Pump is a horizontal axis, radially split, ring section design multistage centrifugal pump with opposed (Back to back) impellers.  
Impellers are between bearings, single entry, closed type and dynamically ballanced.  
Axial thrust automatically ballanced thanks to opposed impellers. It is not necessary to use ballance disk or drum.  
Pump and motor are fitted on a common baseplate connected to each other by a flexible coupling.  
Normally, discharge port is at the middle of the pump and ot top and suction port is at dead end side at left.  
Suction nozzles may be set a choice of three 90° positions. By special request it is possible to put the suction nozzle at the motor end. You can see possible arrangements at " Different Mounting Arrangements" section

## Shaft

Cromium steel (AISI 420) fine grained shafts are used on KMK pumps. There is no diameter differences along the shaft and it is possible and very easy to dismantling the pump beginning from suction or discharge ends.  
There are nuts at the each end of the pump shaft.

## Materials of Construction

Component	Material Version				
	STANDARD	Diffuser in Bronze	All Bronze	Carbon Steel	Stainless Steel
Suc.&Disch. Casing	GG 25 / GGG 40	GG 25 / GGG 40	Bronze	GS 45	X6CrNi189 / X5CrNiMo1810
Stage Casing	GG 25 / GGG 40	GG 25 / GGG 40	Bronze	GS 45	X6CrNi189 / X5CrNiMo1810
Impeller	GG25	Bronze	Bronze	Bronze	X6CrNi189 / X5CrNiMo1810
Diffuser	GG 25	Bronze	Bronze	GS 45	X6CrNi189 / X5CrNiMo1810
Gland	GGG 40	GGG 40	Bronze	GS 45	X6CrNi189 / X5CrNiMo1810
Shaft	X20Cr13	X20Cr13	X20Cr13	X20Cr13	X5CrNi1810 / X5CrNiMo17122
Shaft Sleeve	C1040 (Cr Plated)	C1040 (Cr Plated)	Bronze	C1040 (Cr Plated)	X5CrNi1810 / X5CrNiMo17122
Bearing Housing	GG 25	GG 25	GG 25	GG 25	GG 25
Bearing Cover	GG25	GG 25	GG 25	GG 25	GG 25

## Bearings

On both ends there are one bearing housing equipped with grease lubricated antifriction bearings. At motor side there is a roller bearing and at the dead end there are two angular contact ball bearings mounted back to back. Deflectors on the shaft prevent leakage fluid from getting into bracket.

## Shaft Seal

Pumps are supplied as standard, soft packing glands. Lantern rings are used on both sides for water sealing and lubricating of packing. Sealing section of pump shaft are protected by hard cromium plated sleeves. On pressure side special design high pressure packings are used.

- Uncooled stuffing box is standard. ( Up to 90 °C)
- Uncooled mechanical seal is optional. (Up To 90 °C) + 120 °C (+ 130°C)
- Water cooled stuffing box or mechanical seal is optional. ( 90 – 140 °C)

## Technical Data

- Suction and Discharge Nozzles... : DN 32 ...DN 80
- Operating Pressure: ..... : 40 (64) Bar
- No of stages :..... : 6 - 16 (10)
- Speed : ..... : 2900 - 3600 RPM
- Capacity Range : ..... : 10 - 130 m<sup>3</sup> / h
- Head Range :..... : 200 - 600 m.

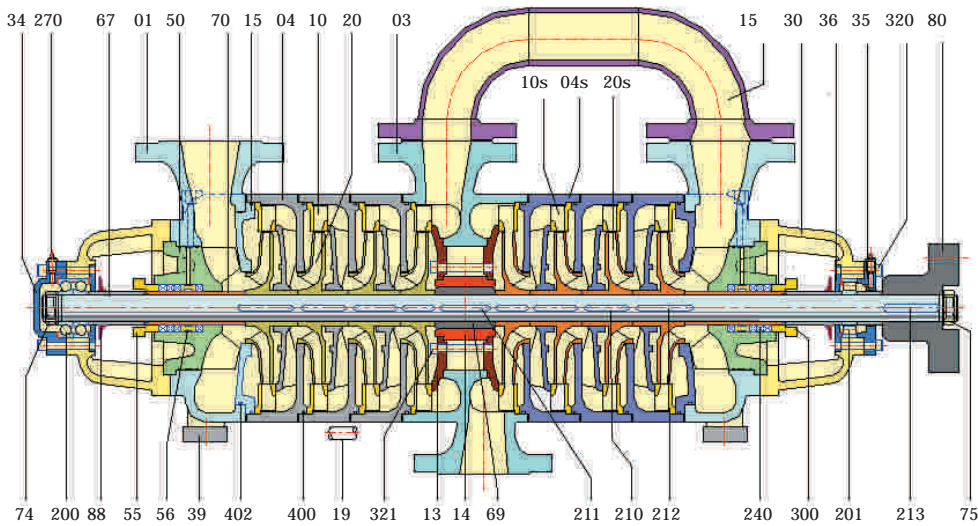
## Pump Flanges

According to DIN 2546 - PN 64

Identification Code **KMK 40 / 12**

Pump Type \_\_\_\_\_ ↑  
 Discharge Nozzle DN (mm) \_\_\_\_\_ ↑  
 No of stages \_\_\_\_\_ ↑

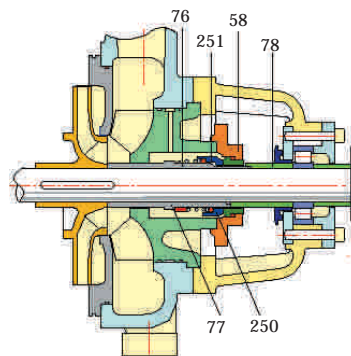
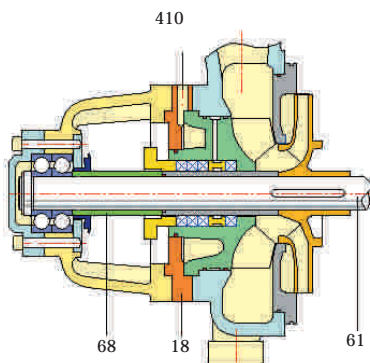
# sectional drawing & parts list



## Part List

01 Suction Casing	34 Bearing Cover (suction )	200 Ball Bearing (2 x 73.. )
03 Discharge Casing	35 Bearing Cover (discharge)	201 Roller Bearing (NU..)
04 Stage Casing (right)	36 Bearing Cover (inside)	210 Key ( impeller )
04s Stage Casing (left)	39 Pump Foot	211 Key ( middle sleeve)
10 Difuser (right)	55 Gland	212 Key ( first and last stages)
10s Difuser (left)	56 Lantern Ring	213 Key ( coupling)
13 Discharge Casing Cover	60 Shaft	240 Soft Packing
14 Bronze Sleeve Bearing	67 Spacer Sleeve	300 Stud and Nut ( gland )
15 Suction Casing Cover	69 Middle Bearing Sleeve	320 Bolt ( bearing cover)
17 Connection Pipe	70 Shaft Sleeve	321 Bolt (middle sleeve bearing)
19 Tie Bolt and Nut	74 Shaft Nut (dead end)	400 O-Ring ( stage casing)
20 Impeller (right)	75 Shaft Nut (coupling end)	401 O-Ring ( shaft sleeve)
20s Impeller (left)	80 Coupling ( pump half)	402 O-Ring (suction case cover)
30 Bearing Housing	88 Water Thrower	

## Optional Applications



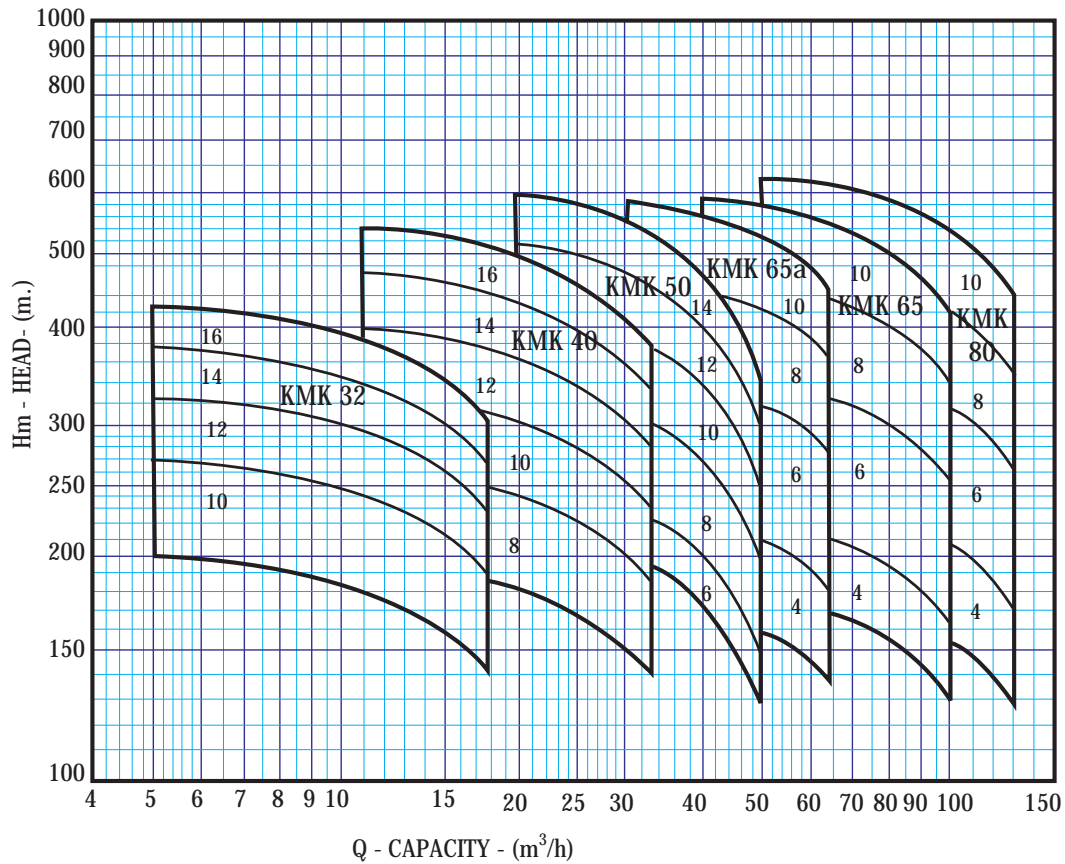
- Cooled Stuffing Box  
( Cooled mech.seal is also available)

- 68 Long Spacer Sleeve
- 18 Cover for cooled stuffing box
- 61 Special shaft for cooled stuffing box.
- 410 Gasket

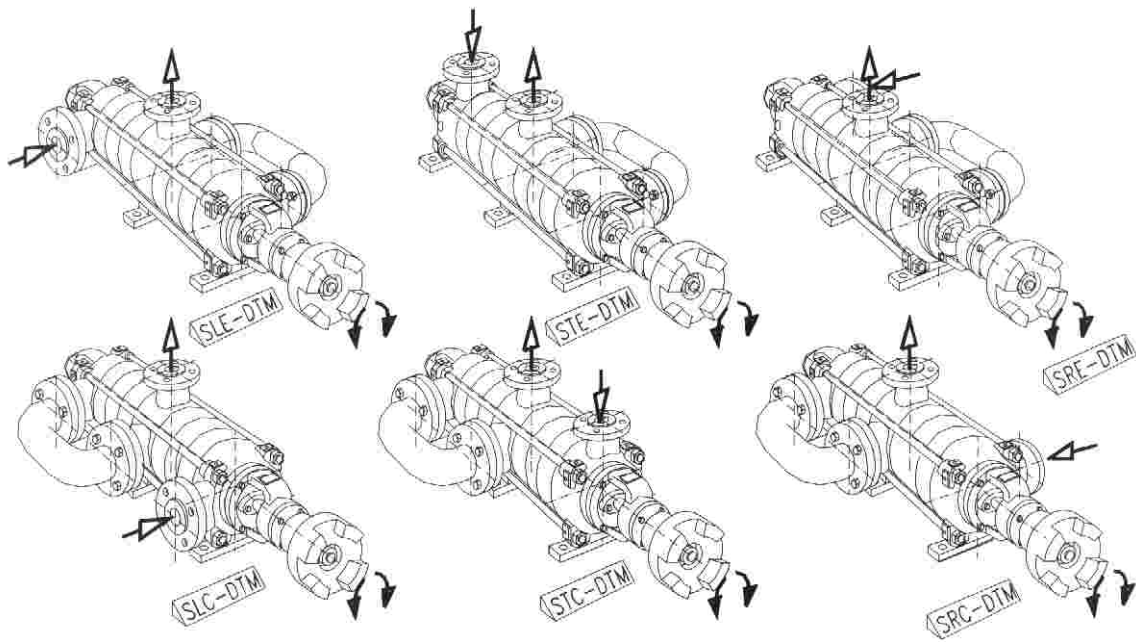
- Upper half of drawing :Ballanced Mechanical Seal (part No:251)  
( For Discharge side - Over 10 Bar )
- Lower half of drawing : Single spring Mech. Seal.(part No:250)  
( For Suction side , and discharge side up to 10 Bar.)

- 76 Shaft Sleeve for Ballanced Mech.seal
- 58 Mech Seal Cover.
- 78 Spacer sleeve for Ballanced Mech.Seal.
- 77 Shaft Sleeve for single spring Mech.Seal.

# performance range (2900 RPM )



## Different mounting arrangements

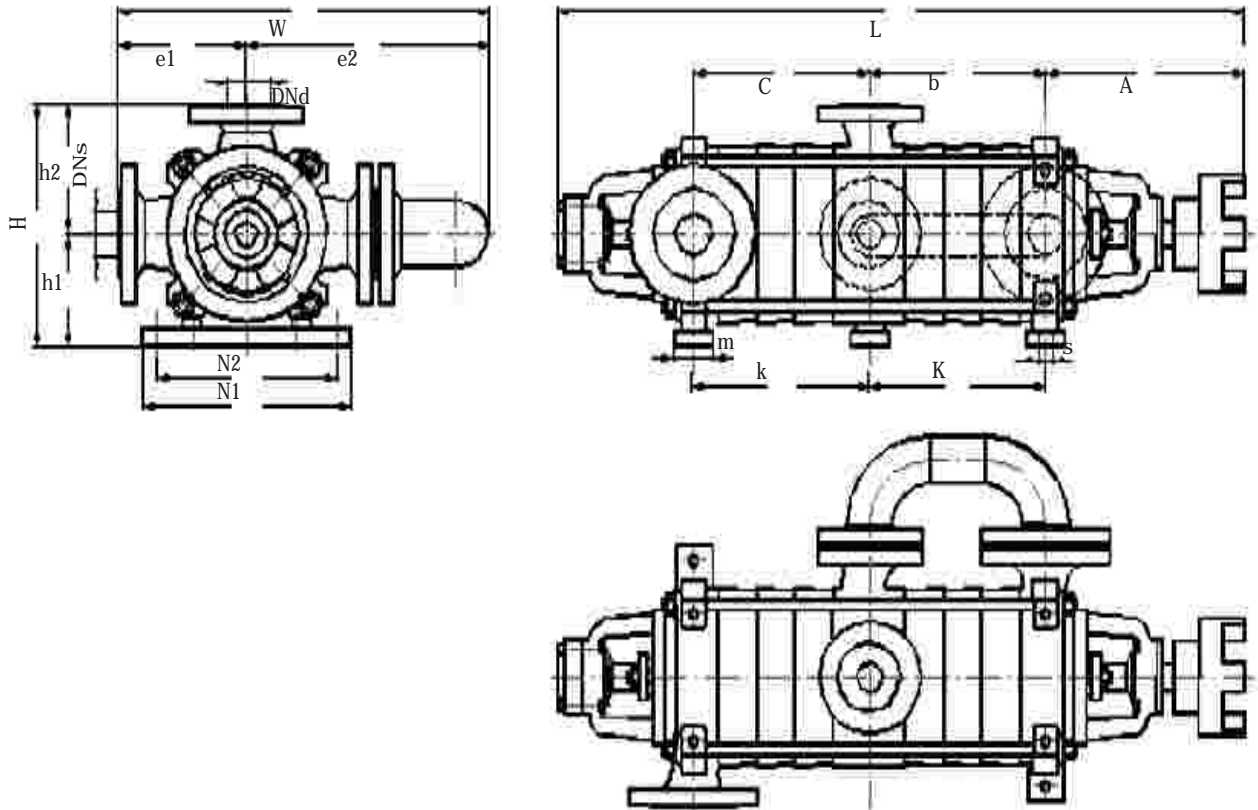


If notify on order, it is possible to manufacture all types of pumps CCW rotation.

Example: SLE-DTM . CCW = Suction Left End - Discharge Top Middle - Rotation Contrary Clock Wise

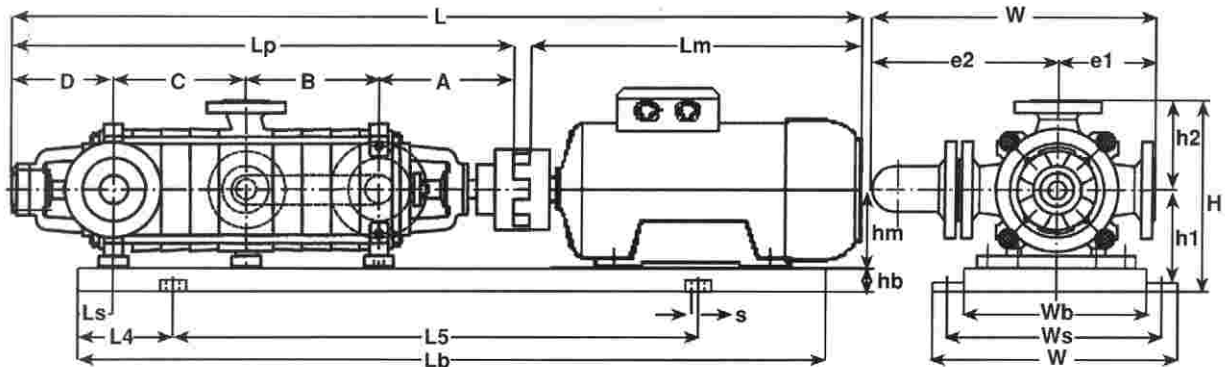


# pump dimensions table



Pump Size	DN s mm Ø	DN d mm Ø	L mm	W mm	H mm	A mm	B mm	C mm	h1 mm	h2 mm	e1 mm	e2 mm	N1 mm	N2 mm	k mm	m mm	s mmØ
KMK - 32 / 10 /12 /14 /16	40	32	968	400	272	260	253	253	117	150	150	250	250	220	253	40	12
			1054				296	296							296		
			1140				339	339							339		
			1226				382	382							382		
KMK - 40 / 8 /10 /12 /14 /16	50	40	971	490	302	266	255	255	132	170	170	320	300	260	255	40	12
			1081				310	310							310		
			1191				365	365							365		
			1301				420	420							420		
			1411				475	475							475		
KMK - 50 / 8 /10 /12 /14	65	50	1080	550	345	258	325	292	155	190	190	360	330	290	308	50	14
			1212				391	358							374		
			1344				457	424							440		
			1476				523	490							506		
KMK - 65a / 4 /6 /8 /10	80	65	965	635	405	317	230	180	180	225	225	410	380	340	205	60	18
			1105				300	250							275		
			1245				370	320							345		
			1385				440	390							415		
KMK - 65 / 4 /6 /8 /10	80	65	985	635	405	317	240	190	180	225	225	410	380	340	215	60	18
			1135				315	265							290		
			1285				390	340							365		
			1435				465	415							440		
KMK - 80 / 4 /6 /8 /10	100	80	1110	770	465	400	215	255	200	265	265	505	470	400	235	70	22
			1280				300	340							320		
			1450				385	425							405		
			1620				470	510							490		

# overall dimensions - 2900 RPM



Pump Size St	PUMP				OVERALL			MOTOR		BASE PLATE								
	MOTOR kw	IEC No	DN s mm Ø	DN d mm Ø	Lp mm	L mm	W mm	H mm	Lm mm	hm mm	Lb mm	Wb mm	hb mm	L3 mm	L4 mm	L5 mm	Ws mm	s mmØ
KMK 32/10	18.5	160L	40	32	968	1631	450	390	638	160	1400	340	80	42	230	940	400	24
KMK 32/12	22	180M	40	32	1054	1728	490	410	654	180	1600	380	80	42	270	1060	440	24
KMK 32/14	22	180M	40	32	1140	1814	490	410	654	180	1600	380	80	42	270	1060	440	24
KMK 32/14	30	200L	40	32	1140	1907	540	430	747	200	1600	430	80	42	270	1060	490	24
KMK 32/16	30	200L	40	32	1226	1993	540	430	747	200	1800	430	80	42	300	1200	490	24
KMK 40/8	30	200L	50	40	971	1738	540	450	747	200	1600	430	80	49	270	1060	490	24
KMK 40/10	37	200L	50	40	1081	1848	540	450	747	200	1600	430	80	49	270	1060	490	24
KMK 40/12	45	225M	50	40	1191	2001	610	495	790	225	1800	480	100	49	300	1200	550	28
KMK 40/14	55	250M	50	40	1301	2211	660	520	890	250	2000	530	100	49	300	1400	600	28
KMK 40/16	55	250M	50	40	1411	2321	660	520	890	250	2000	530	100	49	300	1400	600	28
KMK 40/16	75	280S	50	40	1411	2389	730	550	958	280	2200	600	100	49	300	1600	600	28
KMK 50/8	55	250M	65	50	1080	1990	660	540	890	250	1800	530	100	52	300	1200	600	28
KMK 50/10	75	280S	65	50	1212	2190	730	570	958	280	2000	600	100	52	300	1400	600	28
KMK 50/12	75	280S	65	50	1344	2322	730	570	958	280	2000	600	100	52	300	1400	600	28
KMK 50/12	90	280M	65	50	1344	2374	730	570	1010	280	2200	600	100	52	300	1600	600	28
KMK 50/14	90	280M	65	50	1476	2506	730	570	1010	280	2200	600	100	52	300	1600	600	28
KMK 50/14	110	315S	65	50	1476	2574	830	625	1078	315	2250	680	120	52	380	1500	750	36
KMK 65a/4	55	250M	80	65	965	1875	660	575	890	250	1600	530	100	68	270	1060	600	28
KMK 65a/6	75	280S	80	65	1105	2083	730	605	958	280	1800	600	100	68	300	1200	600	28
KMK 65a/6	90	280M	80	65	1105	2135	730	605	1010	280	1800	600	100	68	300	1200	600	28
KMK 65a/8	110	315S	80	65	1245	2343	830	660	1078	315	2000	680	120	68	330	1340	750	36
KMK 65a/10	132	315M	80	65	1385	2535	830	660	1130	315	2250	680	120	68	380	1500	750	36
KMK 65a/10	160	315M	80	65	1385	2535	830	660	1130	315	2250	680	120	68	380	1500	750	36
KMK 65/4	90	280M	80	65	985	2015	730	605	1010	280	1800	600	100	68	300	1200	600	28
KMK 65/6	110	315S	80	65	1085	2235	830	660	1130	315	2000	680	120	68	330	1340	750	36
KMK 65/6	132	315M	80	65	1135	2285	830	660	1130	315	2000	680	120	68	330	1340	750	36
KMK 65/8	160	315M	80	65	1285	2435	830	660	1130	315	2250	680	120	68	380	1500	750	36
KMK 65/8	185	315L	80	65	1285	2525	830	660	1220	315	2250	60	120	68	380	1500	750	36
KMK 65/10	200	315L	80	65	1435	2675	830	660	1220	315	2250	680	120	68	380	1500	750	36
KMK 65/10	250	355M	80	65	1435	2785	915	700	1330	355	2500	750	120	68	420	1680	840	36
KMK 80/4	132	315M	100	80	1110	2240	830	700	1130	315	2000	680	120	75	330	1340	750	36
KMK 80/4	160	315M	100	80	1110	2240	830	700	1130	315	2000	680	120	75	330	1340	750	36
KMK 80/6	185	315L	100	80	1280	2500	830	700	1220	315	2250	680	120	75	380	1500	750	36
KMK 80/6	200	315L	100	80	1280	2500	830	700	1220	315	2250	680	120	75	380	1500	750	36
KMK 80/8	250	355M	100	80	1450	2780	915	740	1330	355	2500	750	120	75	420	1680	840	36
KMK 80/8	315	355M	100	80	1450	2780	915	740	1330	355	2500	750	120	75	420	1680	840	36
KMK 80/10	315	355M	100	80	1620	2950	915	740	1330	355	2700	750	120	75	500	1750	840	36
KMK 80/10	355	355M	100	80	1620	2950	915	740	1330	355	2700	750	120	75	500	1750	840	36

(\*) A, B, C, D, h1, h2 and e dimensions are in the sheet "PUMP DIMENSIONS TABLE"