HYDRAULIC EFFICIENCY

EU 547/2012 REGULATION - MEI

GENERAL INFORMATION

The MEI index (Minimum Efficiency Index) was issued with the objective of defining a performance threshold value applicable to all the water pumps found on the market. The MEI index takes into account the size of the pump, its specific speed, and its speed of rotation.
The regulation applies to centrifugal pumps used for pumping clean waters included in the following categories:
- Axial suction pumps with support (ESOB)
- Horizontal monobloc axial suction pumps (ESCC)
- In-line monobloc axial suction pumps (ESCCI)
- Multistage vertical pumps (MS-V)
- Multistage submerged pumps (MSS)

MEI is a dimensionless indicator for hydraulic performance, and a measure of the quality of the sizing of the pump in relation to the performance.
The higher the MEI value, the better is the sizing of the pump in relation to the performance, and the lower is the annual energy consumption due to the use of the pump. In theory, the upper limit of the MEI values is open, and only depends on physical and technological limitations.

The minimum efficiency index (MEI) is based on the maximum diameter of the impeller. Multistage vertical water pumps must be tested in the 3-stage version.

The value of reference for the more efficient water pumps is MEI $\geq$ 0,70.

The efficiency of a pump with turned impeller is generally lower to that of a pump with full impeller diameter. The turning of the impeller adapts the pump to a fixed point of operation, resulting in lower energy consumption.

The operation of this water pump with variable operating points can be more efficient and economical if controlled, for example, by means of a variable speed motor adapting the operation of the pump to the system.

The information on the efficiency of reference can be found at the address: **www.dabpumps.com**. In alternative contact your local sales representatives.

The MEI=0,7 and MEI=0,4 efficiency charts for the different types of pumps can be found at the website: **www.europump.org/efficiencycharts**

PUMP MODEL	IMPELLER	MEI
KE 55/200 T	Full	$\geq$ 0,70
KE 36/200 T	Turned	
KE 40/200 T	Turned	
KE 50/400 T	Full	$\geq$ 0,50
KE 40/400 T	Turned	
KE 50/800 T	Full	$\geq$ 0,60
KE 30/800 T	Turned	
KE 40/800 T	Turned	
KE 35/1200 T	Full	$\geq$ 0,60
KE 25/1200 T	Turned	

HYDRAULIC EFFICIENCY

EU 547/2012 REGULATION - MEI

PUMP MODEL	IMPELLER	MEI
NKM-GE 32-125.1/140 T 0,25	Full	≥ 0,40
NKP-GE 32-125.1/140 T 2,2	Full	≥ 0,40
NKP-GE 32-125.1/115 T 1,1	Turned	
NKP-GE 32-125.1/125 T 1,5	Turned	
NKM-GE 32-160.1/169 T 0,37	Full	≥ 0,40
NKP-GE 32-160.1/177	Full	≥ 0,40
NKP-GE 32-160.1/155 T 2,2	Turned	
NKP-GE 32-160.1/166 T 3	Turned	
NKM-GE 32-200.1/200 T 0,55	Full	≥ 0,40
NKP-GE 32-200.1/205 T 5,5	Full	≥ 0,40
NKP-GE 32-200.1/188 T 4	Turned	
NKM-GE 32-125/142 T 0,37	Full	≥ 0,40
NKP-GE 32-125/142 T 3	Full	≥ 0,40
NKP-GE 32-125/110 T 1,1	Turned	
NKP-GE 32-125/120 T 1,5	Turned	
NKP-GE 32-125/130 T 2,2	Turned	
NKM-GE 32-160/169 T 0,55	Full	≥ 0,40
NKP-GE 32-160/177 T 5,5	Full	≥ 0,40
NKP-GE 32-160/151 T 3	Turned	
NKP-GE 32-160/163 T 4	Turned	
NKM-GE 32-200/219 T 1,1	Full	≥ 0,60
NKP-GE 32-200/210 T 7,5	Full	≥ 0,50
NKP-GE 32-200/190 T 5,5	Turned	
NKM-GE 40-125/142 T 0,55	Full	≥ 0,40
NKP-GE 40-125/139 1 A T 4	Full	≥ 0,40
NKP-GE 40-125/107 7 A T 1.5	Turned	
NKP-GE 40-125/120 5 A T 2.2	Turned	
NKP-GE 40-125/130 3 A T 3	Turned	
NKM-GE 40-160/166 T 0,75	Full	≥ 0,40
NKP-GE 40-160/172 T 7,5	Full	≥ 0,50
NKP-GE 40-160/158 T 5,5	Turned	
NKM-GE 40-200/219 T 1,5	Full	≥ 0,60
NKP-GE 40-200/210 T 11	Full	≥ 0,40
NKM-GE 40-250/260 T 3	Full	≥ 0,60
NKM-GE 40-250/245 T 2,2	Turned	
NKP-GE 40-250/230 T 15	Turned	≥ 0,50
NKM-GE 50-125/141 T 0,75	Full	≥ 0,40

PUMP MODEL	IMPELLER	MEI
NKP-GE 50-125/144 T 7,5	Full	≥ 0,40
NKP-GE 50-125/115 T 3	Turned	
NKP-GE 50-125/125 T 4	Turned	
NKP-GE 50-125/135 T 5,5	Turned	
NKM-GE 50-160/177 T 1,5	Full	≥ 0,60
NKP-GE 50-160/169 T 11	Full	≥ 0,40
NKP-GE 50-160/153 T 7,5	Turned	
NKM-GE 50-200/219 T 3	Full	≥ 0,60
NKP-GE 50-200/200 T 15	Turned	≥ 0,50
NKM-GE 50-250/263 T 4	Full	≥ 0,60
NKM-GE 65-125/144 T 1,1	Full	≥ 0,40
NKP-GE 65-125/137 T 7,5	Full	≥ 0,40
NKP-GE 65-125/127 T 5,5	Turned	
NKM-GE 65-160/177 T 2,2	Full	≥ 0,60
NKM-GE 65-160/153 T 1,1	Turned	
NKP-GE 65-160/173 T 15	Full	≥ 0,50
NKP-GE 65-160/157 T 11	Turned	
NKM-GE 65-200/210 T 3	Turned	≥ 0,60
NKP-GE 65-200/219 T 30	Full	≥ 0,70
NKM-GE 65-250/263 T 5,5	Full	≥ 0,50
NKM-GE 65-315/309 T 11	Full	≥ 0,40
NKM-GE 65-315/279 T 7,5	Turned	
NKM-GE 80-160/177 T 3	Full	≥ 0,40
NKM-GE 80-160/163 T 2,2	Turned	
NKP-GE 80-160/147-127 T 11	Turned	≥ 0,40
NKP-GE 80-160/153 T 15	Turned	
NKM-GE 80-200/222 T 5,5	Full	≥ 0,40
NKM-GE 80-250/270 T 11	Full	≥ 0,40
NKM-GE 80-250/240 T 7,5	Turned	
NKM-GE 80-315/305 T 15	Turned	≥ 0,50
NKM-GE 100-200/214 T 7,5	Full	≥ 0,40
NKM-GE 100-200/200 T 5,5	Turned	
NKM-GE 100-250/270 T 15	Full	≥ 0,40
NKM-GE 100-250/250 T 11	Turned	
NKM-GE 125-250/243 T 15	Turned	≥ 0,40
NKM-GE 150-200/218 T 11	-	not applicable

HYDRAULIC EFFICIENCY

EU 547/2012 REGULATION - MEI

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KDNE 32-125.1/140 4P	Full	≥ 0,40
KDNE 32-125.1/140 2P	Full	≥ 0,40
KDNE 32-125.1/110 2P	Turned	
KDNE 32-125.1/130 2P	Turned	
KDNE 32-160.1/177 4P	Full	≥ 0,40
KDNE 32-160.1/177 2P	Full	≥ 0,40
KDNE 32-160.1/137 2P	Turned	
KDNE 32-160.1/145 2P	Turned	
KDNE 32-160.1/153 2P	Turned	
KDNE 32-200.1/207 4P	Full	≥ 0,50
KDNE 32-200.1/207 2P	Full	≥ 0,40
KDNE 32-200.1/170 2P	Turned	
KDNE 32-200.1/190 2P	Turned	
KDNE 32-125/142 4P	Full	≥ 0,50
KDNE 32-125/142 2P	Full	≥ 0,40
KDNE 32-125/125 2P	Turned	
KDNE 32-125/130 2P	Turned	
KDNE 32-160/177 4P	Full	≥ 0,40
KDNE 32-160/177 2P	Full	≥ 0,40
KDNE 32-160/145 2P	Turned	
KDNE 32-160/161 2P	Turned	
KDNE 32-200/219 4P	Full	≥ 0,60
KDNE 32-200/200 4P	Turned	
KDNE 32-200/219 2P	Full	≥ 0,60
KDNE 32-200/180 2P	Turned	
KDNE 32-200/200 2P	Turned	
KDNE 32-200/210 2P	Turned	
KDNE 40-125/142 4P	Full	≥ 0,40
KDNE 40-125/142 2P	Full	≥ 0,40
KDNE 40-125/120 2P	Turned	
KDNE 40-160/177 4P	Full	≥ 0,40
KDNE 40-160/161 4P	Turned	
KDNE 40-160/177 2P	Full	≥ 0,50
KDNE 40-160/145 2P	Turned	
KDNE 40-160/161 2P	Turned	
KDNE 40-200/219 4P	Full	≥ 0,60
KDNE 40-200/180 4P	Turned	
KDNE 40-200/200 4P	Turned	
KDNE 40-200/219 2P	Full	≥ 0,50
KDNE 40-200/180 2P	Turned	
KDNE 40-200/200 2P	Turned	

PUMP MODEL	IMPELLER	MEI
KDNE 40-250/260 4P	Full	≥ 0,40
KDNE 40-250/230 4P	Turned	
KDNE 40-250/240 4P	Turned	
KDNE 40-250/250 4P	Turned	
KDNE 40-250/220 2P	Turned	≥ 0,40
KDNE 50-125/144 4P	Full	≥ 0,40
KDNE 50-125/139 4P	Turned	
KDNE 50-125/144 2P	Full	≥ 0,40
KDNE 50-125/125 2P	Turned	
KDNE 50-125/139 2P	Turned	
KDNE 50-160/177 4P	Full	≥ 0,60
KDNE 50-160/137 4P	Turned	
KDNE 50-160/153 4P	Turned	
KDNE 50-160/169 4P	Turned	
KDNE 50-160/177 2P	Full	≥ 0,50
KDNE 50-160/145 2P	Turned	
KDNE 50-160/161 2P	Turned	
KDNE 50-200/219 4P	Full	≥ 0,60
KDNE 50-200/170 4P	Turned	
KDNE 50-200/190 4P	Turned	
KDNE 50-200/210 4P	Turned	
KDNE 50-200/180 2P	Turned	≥ 0,40
KDNE 50-200/190 2P	Turned	
KDNE 50-250/263 4P	Full	≥ 0,60
KDNE 50-250/220 4P	Turned	
KDNE 65-125/144 4P	Full	≥ 0,40
KDNE 65-125/130 4P	Turned	
KDNE 65-125/144 2P	Full	≥ 0,40
KDNE 65-125/120 2P	Turned	
KDNE 65-125/130 2P	Turned	
KDNE 65-160/177 4P	Full	≥ 0,60
KDNE 65-160/137 4P	Turned	
KDNE 65-160/153 4P	Turned	
KDNE 65-160/169 4P	Turned	

HYDRAULIC EFFICIENCY

EU 547/2012 REGULATION - MEI

PUMP MODEL	IMPELLER	MEI
KDNE 65-160/137 2P	Turned	≥ 0,50
KDNE 65-160/153 2P	Turned	
KDNE 65-160/169 2P	Turned	
KDNE 65-200/219 4P	Full	≥ 0,60
KDNE 65-200/180 4P	Turned	
KDNE 65-200/190 4P	Turned	
KDNE 65-200/170 2P	Turned	≥ 0,60
KDNE 65-250/263 4P	Full	≥ 0,50
KDNE 65-250/240 4P	Turned	
KDNE 65-315/320 4P	Full	≥ 0,50
KDNE 65-315/260 4P	Turned	
KDNE 65-315/290 4P	Turned	
KDNE 80-160/177 4P	Full	≥ 0,50
KDNE 80-160/153 4P	Turned	
KDNE 80-160/161 4P	Turned	
KDNE 80-160/153-136 2P	Turned	≥ 0,40
KDNE 80-200/222 4P	Full	≥ 0,50
KDNE 80-200/170 4P	Turned	
KDNE 80-200/200 4P	Turned	
KDNE 80-250/270 4P	Full	≥ 0,40
KDNE 80-250/230 4P	Turned	
KDNE 80-250/260 4P	Turned	
KDNE 80-315/290 4P	Turned	≥ 0,40
KDNE 100-200/219 4P	Full	≥ 0,40
KDNE 100-200/180 4P	Turned	
KDNE 100-200/200 4P	Turned	
KDNE 100-250/240 4P	Turned	≥ 0,40
KDNE 100-250/260 4P	Turned	
KDNE 100-315/275 4P	Turned	≥ 0,40
KDNE 125-250/230 4P	Turned	≥ 0,40
KDNE 150-200/218-182 4P	Turned	not applicable
KDNE 150-200/224 4P	Turned	

HYDRAULIC EFFICIENCY

EU 547/2012 REGULATION - MEI

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
KVCE 35/30 M	4	≥ 0,40	35,95	38,50	37,99
KVCE 45/30 M	5		34,29	36,35	36,08
KVCE 50/30 M	6		29,03	30,86	30,56
KVCE 60/30 M	7		28,82	30,95	30,56
KVCE 70/30 M	8		35,16	37,89	37,32
KVCE 30/50 M	3	≥ 0,60	40,75	43,10	42,76
KVCE 40/50 M	4		40,73	43,34	42,91
KVCE 55/50 M	5		38,90	41,70	41,20
KVCE 65/50 M	6		37,53	39,21	38,75
KVCE 75/50 M	7		36,39	38,91	38,35
KVCE 30/80 M	4	≥ 0,40	44,06	46,30	45,84
KVCE 40/80 M	5		43,43	46,97	46,80
KVCE 45/80 M	6		41,91	43,96	43,57
KVCE 55/80 M	7		41,05	43,00	42,63
KVCE 35/120 M	3	≥ 0,50	49,31	51,00	50,76
KVCE 45/120 M	4		47,59	49,50	48,96
KVCE 60/120 T	5		47,81	49,44	48,97
KVCE 70/120 T	6		47,58	49,00	48,61
KVCE 85/120 T	7		49,23	50,84	50,20

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
KVE 3/10 M	10	≥ 0,40	47,83	52,40	51,69
KVE 3/12 M	12		49,22	53,67	52,94
KVE 3/15 M	15		46,57	50,40	49,75
KVE 3/18 T	18		48,11	41,91	51,17
KVE 6/7 M	7	≥ 0,40	50,28	54,00	53,47
KVE 6/9 M	9		50,52	55,10	54,34
KVE 6/11 M	11		49,10	52,67	52,16
KVE 6/15 T	15		51,09	55,20	54,44
KVE 10/4 M	4	≥ 0,40	53,89	55,88	55,60
KVE 10/5 M	5		54,72	57,27	56,81
KVE 10/6 M	6		57,77	60,20	59,48
KVE 10/8 T	8		57,41	60,77	60,59

HYDRAULIC EFFICIENCY

EU 547/2012 REGULATION - MEI

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
NKVE 10/3	3	≥ 0,60	63,39	66,41	65,77
NKVE 10/2	2		64,88	67,70	67,39
NKVE 10/4	4		63,30	65,89	65,29
NKVE 10/5	5		65,48	69,58	68,81
NKVE 10/6	6		66,55	68,40	67,76
NKVE 10/7	7		66,11	68,52	67,86
NKVE 10/8	8		64,66	67,13	66,08
NKVE 10/9	9		66,77	68,94	68,26
NKVE 10/10	10		66,44	69,13	68,43
NKVE 10/12	12		65,97	68,88	67,71
NKVE 10/14	14		63,80	66,29	65,51
NKVE 10/16	16		62,88	65,32	64,69
NKVE 10/18	18		64,39	66,91	66,19
NKVE 10/20	20		64,45	66,82	66,19
NKVE 10/22	22		65,23	67,61	66,72

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
NKVE 15/3	3	≥ 0,60	68,74	72,03	71,26
NKVE 15/2	2		67,43	71,35	70,68
NKVE 15/4	4		70,15	72,54	71,91
NKVE 15/5	5		70,40	74,23	73,48
NKVE 15/6	6		70,19	73,29	72,46
NKVE 15/7	7		69,81	73,65	72,91
NKVE 15/8	8		68,06	71,49	70,86
NKVE 15/9	9		69,77	73,07	72,30
NKVE 15/10	10		66,95	70,35	69,67
NKVE 15/12	12		70,09	74,28	73,55
NKVE 15/14	14		69,44	72,75	72,00
NKVE 15/16	16		70,90	74,76	74,01
NKVE 15/17	17		70,55	74,26	73,35

HYDRAULIC EFFICIENCY

EU 547/2012 REGULATION - MEI

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
NKVE 20/3	3	≥ 0,60	70,47	71,40	70,59
NKVE 20/2	2		67,45	73,36	72,50
NKVE 20/4	4		66,24	69,74	69,33
NKVE 20/5	5		72,31	74,50	73,90
NKVE 20/6	6		70,37	73,40	72,90
NKVE 20/7	7		70,13	74,04	73,38
NKVE 20/8	8		69,63	72,06	71,60
NKVE 20/9	9		71,68	74,41	73,68
NKVE 20/10	10		70,44	73,42	72,96
NKVE 20/12	12		71,47	74,11	73,45
NKVE 20/14	14		71,33	75,51	74,86

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
NKVE 32/3	3	≥ 0,70	70,08	74,12	73,16
NKVE 32/2	2		70,08	74,12	73,16
NKVE 32/3-2	3		67,38	71,10	70,20
NKVE 32/4	4		70,08	74,12	73,16
NKVE 32/5-2	5		68,40	72,20	71,44
NKVE 32/5	5		70,08	74,12	73,16
NKVE 32/6	6		70,08	74,12	73,16
NKVE 32/7-2	7		68,82	72,70	72,04

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
NKVE 45/3	3	≥ 0,70	73,47	76,37	75,25
NKVE 45/2-2	2		69,13	71,65	70,46
NKVE 45/2	2		73,47	76,37	75,25
NKVE 45/4	4		73,47	76,37	75,25

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
NKVE 65/2-2	2	≥ 0,70	70,92	77,97	77,08
NKVE 65/2	2		73,71	78,96	77,11
NKVE 65/3-2	3		72,27	77,22	76,17

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
NKVE 95/2-2	2	≥ 0,70	72,37	78,87	77,79
NKVE 95/2	2		74,38	79,43	77,94