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 ≥ 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
NKP-G 32-160/177 T 5,5 *	Full	≥ 0,40
NKP-G 32-160/151 T 3	Turned	
NKP-G 32-160/163 T 4	Turned	
NKP-G 32-200/210 T 7,5	Full	≥ 0,50
NKP-G 32-200/190 T 5,5	Turned	
NKP-G 40-160/172 T 7,5	Full	≥ 0,50
NKP-G 40-160/158 T 5,5	Turned	
NKP-G 40-200/210 T 11	Full	≥ 0,40
NKP-G 40-250/260 T 22	Full	≥ 0,50
NKP-G 40-250/230 T 15	Turned	
NKP-G 40-250/245 T 18,5	Turned	
NKP-G 50-160/169 T 11	Full	≥ 0,40
NKP-G 50-160/153 T 7,5	Turned	
NKP-G 50-200/219 T 22	Full	≥ 0,50
NKP-G 50-200/200 T 15	Turned	
NKP-G 50-200/210 T 18,5	Turned	
NKP-G 50-250/257 T 30	Full	≥ 0,40
NKP-G 50-250/230 T 22	Turned	
NKP-G 65-160/173 T 15	Full	≥ 0,50
NKP-G 65-160/157 T 11	Turned	
NKP-G 65-200/219 T 30	Full	≥ 0,70
NKP-G 65-200/190 T 18,5	Turned	
NKP-G 65-200/200 T 22	Turned	

* Model used for MEI reference only.

The MEI values for electronic pumps refer to the same pump without electronic unit.

PUMP MODEL	IMPELLER	MEI
NKP-G 80-160/169 T 22	Full	≥ 0,40
NKP-G 80-160/153 T 15	Turned	
NKP-G 80-160/163 T 18,5	Turned	
NKP-G 80-200/190 T 30	Full	≥ 0,40

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PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
KVC 30/50 M	3	≥ 0,60	40,75	43,10	42,76
KVC 30/50 T			40,19	43,10	42,60
KVC 40/50 M	4		40,73	43,34	42,91
KVC 40/50 T			38,85	41,40	40,92
KVC 55/50 M	5		38,90	41,70	41,20
KVC 55/50 T			38,97	41,61	41,15
KVC 65/50 M	6		37,53	39,21	38,75
KVC 65/50 T			36,52	40,13	39,42
KVC 75/50 M	7		36,39	38,91	38,35
KVC 75/50 T			36,51	39,61	39,05
KVC 30/80 M	4	≥ 0,40	44,06	46,30	45,84
KVC 30/80 T			42,16	45,10	44,44
KVC 40/80 M	5		43,43	46,97	46,80
KVC 40/80 T			41,94	44,40	43,89
KVC 45/80 M	6		41,91	43,96	43,57
KVC 45/80 T			41,06	43,74	43,31
KVC 55/80 M	7		41,05	43,00	42,63
KVC 55/80 T			40,75	43,51	43,05
KVC 65/80 T	8		41,08	44,02	43,48
KVC 35/120 M	3	≥ 0,50	49,31	51,00	50,76
KVC 35/120 T			49,83	51,80	51,38
KVC 45/120 M	4		47,59	49,50	48,96
KVC 45/120 T			47,47	49,30	49,00
KVC 60/120 T	5		47,81	49,44	48,97
KVC 70/120 T	6		47,58	49,00	48,61
KVC 85/120 T	7		49,23	50,84	50,20

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PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
KV 3/10 M	10	≥ 0,40	47,83	52,40	51,69
KV 3/10 T			48,71	52,30	51,44
KV 3/12 M	12		49,22	53,67	52,94
KV 3/12 T			45,09	48,45	47,97
KV 3/15 T	15		47,81	52,55	51,54
KV 3/18 T	18		48,11	41,91	51,17
KV 6/7 M	7	≥ 0,40	50,28	54,00	53,47
KV 6/7 T			50,66	54,57	53,74
KV 6/9 M	9		50,52	55,10	54,34
KV 6/9 T			45,85	49,42	49,11
KV 6/11 M	11		49,10	52,67	52,16
KV 6/11 T			48,37	51,58	51,06
KV 6/15 T	15		51,09	55,20	54,44
KV 10/4 M	4	≥ 0,40	53,89	55,88	55,60
KV 10/4 T			53,72	57,24	56,93
KV 10/5 M	5		54,72	57,27	56,81
KV 10/5 T			54,92	57,35	56,73
KV 10/6 M	6		57,77	60,20	59,48
KV 10/6 T			57,97	60,30	59,88
KV 10/8 T	8		57,41	60,77	60,59

The MEI values for electronic pumps refer to the same pump without electronic unit.

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
NKV 10/5	5	≥ 0,60	65,48	69,58	68,81
NKV 10/6	6		66,55	68,40	67,76
NKV 10/7	7		66,11	68,52	67,86
NKV 10/8	8		64,66	67,13	66,08
NKV 10/9	9		66,77	68,94	68,26
NKV 10/10	10		66,44	69,13	68,43
NKV 10/12	12		65,97	68,88	67,71
NKV 10/14	14		63,80	66,29	65,51

The MEI values for electronic pumps refer to the same pump without electronic unit.

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η OL
NKV 15/3	3	≥ 0,60	68,74	72,03	71,26
NKV 15/4	4		70,15	72,54	71,91
NKV 15/5	5		70,40	74,23	73,48
NKV 15/6	6		70,19	73,29	72,46
NKV 15/7	7		69,81	73,65	72,91
NKV 15/8	8		68,06	71,49	70,86
NKV 15/9	9		69,77	73,07	72,30
NKV 15/10	10		66,95	70,35	69,67

The MEI values for electronic pumps refer to the same pump without electronic unit.

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PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η 0L
NKV 20/3	3	≥ 0,60	70,47	71,40	70,59
NKV 20/4	4		66,24	69,74	69,33
NKV 20/5	5		72,31	74,50	73,90
NKV 20/6	6		70,37	73,40	72,90
NKV 20/7	7		70,13	74,04	73,38
NKV 20/8	8		69,63	72,06	71,60
NKV 20/9	9		71,68	74,41	73,68
NKV 20/10	10		70,44	73,42	72,96

The MEI values for electronic pumps refer to the same pump without electronic unit.

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η 0L
NKV 32/3	3	≥ 0,70	70,08	74,12	73,16
NKV 32/2-2	2		65,89	69,98	69,26
NKV 32/2	2		70,08	74,12	73,16
NKV 32/3-2	3		67,38	71,10	70,20
NKV 32/4-2	4		68,05	71,78	70,92
NKV 32/4	4		70,08	74,12	73,16
NKV 32/5-2	5		68,40	72,20	71,44
NKV 32/5	5		70,08	74,12	73,16
NKV 32/6-2	6		68,62	72,49	71,81
NKV 32/6	6		70,08	74,12	73,16

The MEI values for electronic pumps refer to the same pump without electronic unit.

PUMP MODEL	NUMBER OF STAGES	MEI	η PL	η BEP	η 0L
NKV 45/3	3	≥ 0,70	73,47	76,37	75,25
NKV 45/2-2	2		69,13	71,65	70,46
NKV 45/2	2		73,47	76,37	75,25
NKV 45/3-2	3		69,79	73,42	72,55
NKV 45/4-2	4		70,11	74,21	73,56
NKV 45/4	4		73,47	76,37	75,25
NKV 45/5-2	5		70,36	74,67	74,14
NKV 45/5	5		73,47	76,37	75,25
NKV 45/6-2	6		70,50	74,96	74,52
NKV 45/6	6		73,47	76,37	75,25

The MEI values for electronic pumps refer to the same pump without electronic unit.