

HORIZONTAL MULTISTAGE CENTRIFUGAL PUMPS FH SERIES - 60Hz



FH SERIES

ZIRANTEC Horizontal Multistage MH series pump is non-self priming, axial suction and vertical radial delivery type with threaded ports. All wetted components like impellers, diffusers and shaft of these pumps are made of corrosion resistant AISI stainless steel and designed to deliver the best possible hydraulic efficiency. The pump and motor are connected with a single drive shaft to eliminate any transmission loss. As the shaft, Impeller, diffusers and other vital components of the pump are made up of high grade stainless Steel AISI 304/316, these pumps can be used to pump high aggressive water and quite hygienic to use in drinking water systems too. Wear resistant bearings ensure better hydraulic efficiency and noiseless operation 'O' rings and gaskets prevent leakage at the intermediate casing during high pressure. Mechanical seals of these pumps are made of ceramic and silicon carbide to ensure reliability and easy replacement. These pumps are reliable, easy to install and designed for high end user comfort.

ZIRANTEC Horizontal Multistage centrifugal pumps are powered by a Totally Enclosed Fan Cooled, A.C. induction motor, suitable for continuous duty. Motor stator is made of low watt loss steel laminations assembled under pressure and rigidly locked in the frame. Dynamically balanced rotor ensures vibration and noise free operation and the vacuum impregnated windings made of enameled copper wire offer excellent resistance.

Shaft of ample size made of quality steel and precisely ground is used for transmitting the rated Horsepower. Construction of motor frames and usage of quality materials result in high performance and low temperature rise thereby increasing the life cycle of the motor. Thermal over load protector (motor protector) is incorporated in single phase motors. These pumps require an adequate motor protection control panel.

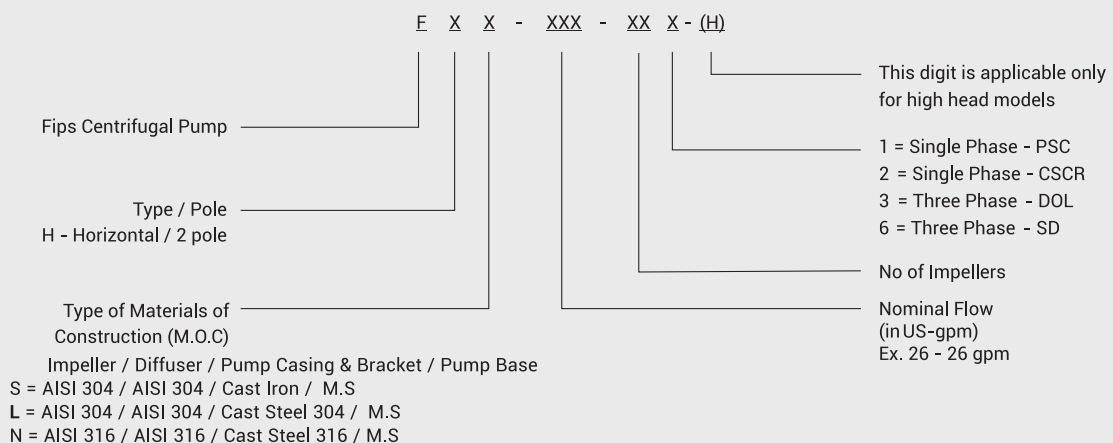
FEATURES

- High Operating efficiency
- Precise parts for hygiene
- Good suction lift and operating pressure
- Dynamically balanced rotating parts
- Balanced and rigid construction
- Available M.O.C. Type S, L & N
- Inbuilt thermal overload protector in all single phase pumps.

APPLICATIONS

- Residential & Industrial Pressure Boosting
- Small farms
- Washing systems
- Industrial water supply
- Reverse
- Osmosis systems
- Food processing industries
- Golf course.

MODEL IDENTIFICATION CODE



TECHNICAL DATA

Power Range	: 0.40 HP to 4.0 HP
Speed	: 3450 rpm
Degree of protection	: IP 54 / IP 55
Insulation class	: B / F
Versions	: Single Phase 220 / 230V, 60Hz, A.C. Supply (Permanent Split Capacitor-PSC) Incorporated with thermal protector. Three Phase 220 / 380 / 460V 60Hz
Sealing	: Mechanical seal
Direction of rotation	: Counter clockwise viewed from driving end
Type of Duty	: S1 (continuous)
Nom. Suc. x Del. Size:	1" x 1" ; 1½" x 1¼"

MATERIALS OF CONSTRUCTION

Pump Casing & Bracket	S.S. 304 / Cast Iron
Impeller	S.S. 304
Diffuser	S.S. 304
Motor Frame	Aluminum
Shaft	S.S. 410
Sealing	Mechanical Seal ■ Standard : Sic / Sic / HNBR ■ Optional : Sic / Sic / EPDM
Base Plate	Mild Steel

CHARACTERISTICS OF PUMPED LIQUIDS

a) Temperature	194°F (max.)
b) Permissible amount of sand	42 lb / 1000 gal (max.)
c) Chlorine ion density	500 ppm (max.)
d) Allowable solids	3000 ppm (max.)
e) Specific gravity	1.004 (max.)
f) Hardness (Drinking water)	300 (max.)
g) Viscosity	1.75 x 10 ⁻⁶ m ² / Sec. (max.)
h) Turbidity	50 ppm silica scale (max.)
i) pH	6.5 to 8.5

OPERATING LIMITS

Maximum Liquid Temperature : 194° F

Maximum Ambient Temperature : 104° F

Maximum Operating Pressure : 0.55 Mpa (5.5 bar)

Max. Operating Pressure	1 mpa (10bar)	0.6 mpa (6bar)
MH-13 & 26	32°F to 104°F	105°F to 194°F
MH-40 & 60	32°F to 131°F	131°F to 194°F

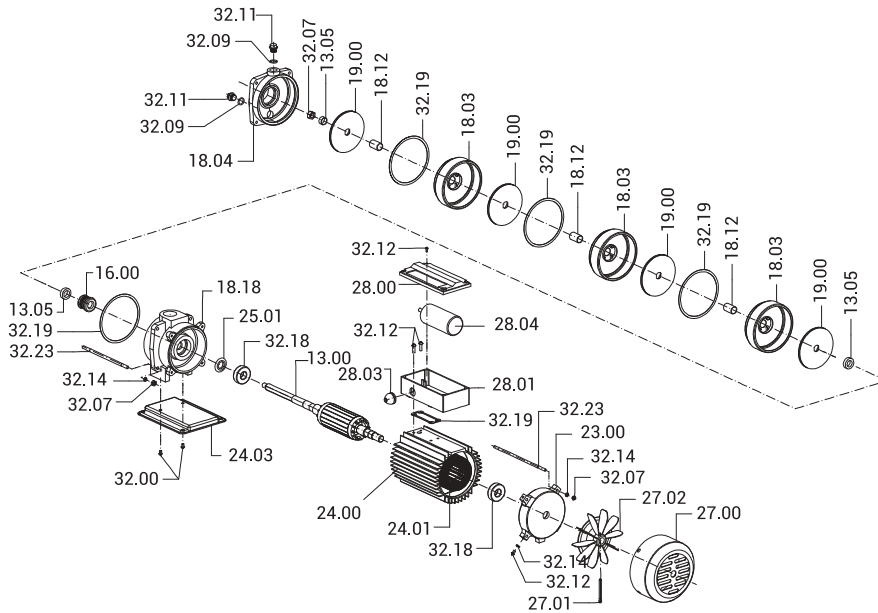
Max. Inlet pressure : Limited by max. operating pressure.

PERFORMANCE CURVE CONDITIONS

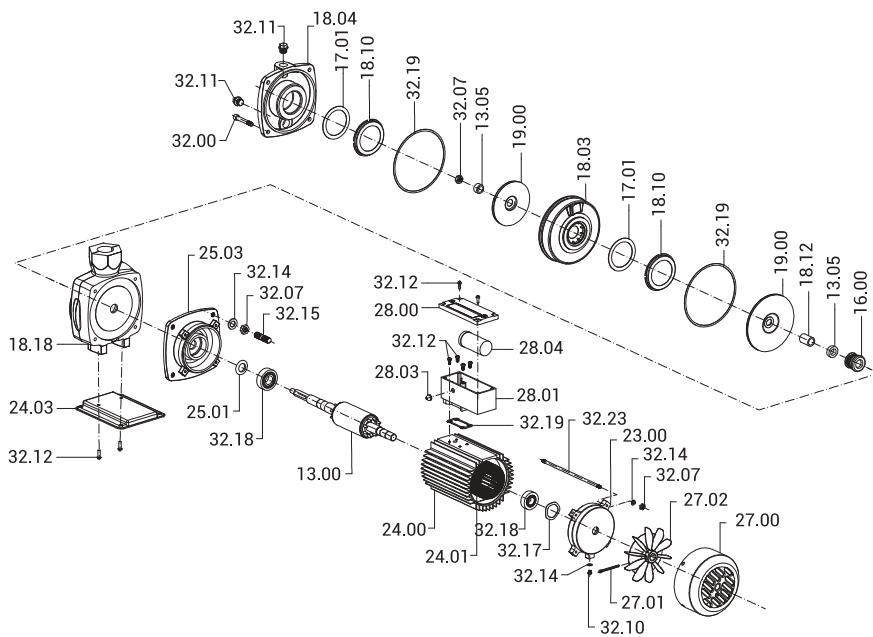
- The conditions below apply to the curves shown on the following pages.
- Curve tolerance are according to ISO 9906, Grade 3B.
- The performance are taken at rated voltage & speed that are only indicative.
- Actual discharge depends on availability of water in well / tank, height of water column from the suction pipe end.
- The measurements were made with airless water at 68°F. When pumping liquids with a density higher than of water, motors with correspondingly higher outputs must be used.
- The bold curves indicate the recommended performance range.
- Pipe fiction losses have not been included in the performance curves & performance tables.

EXPLODED VIEW

FH - 13 & 26 gpm



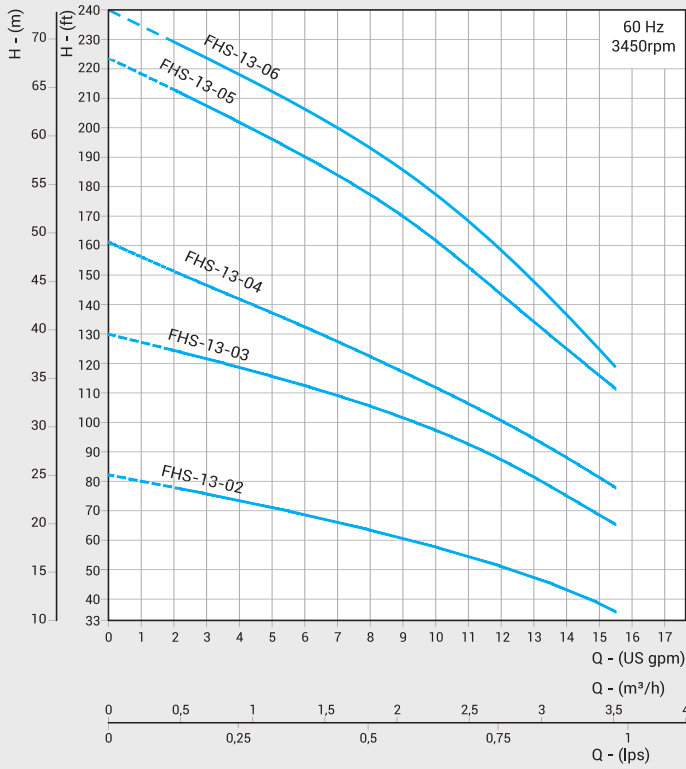
FH - 40 & 60 gpm



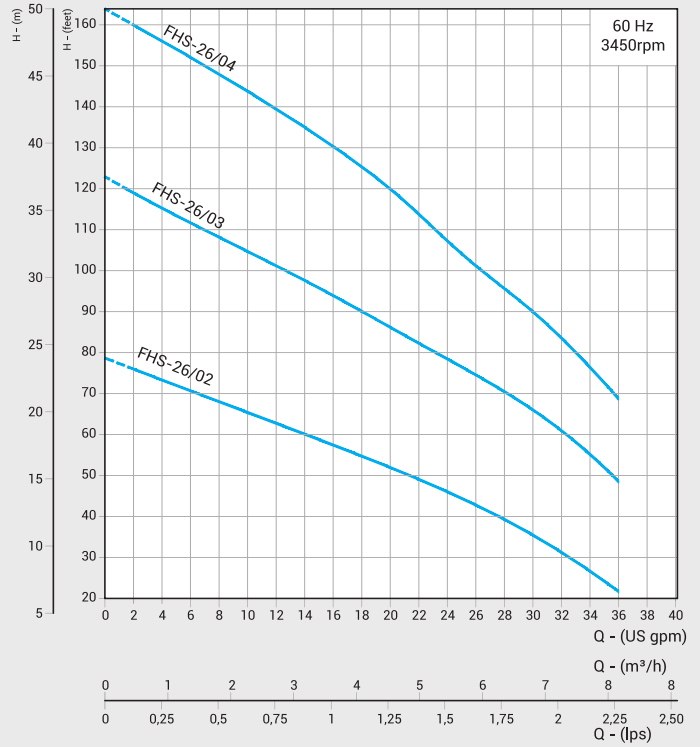
Part Name	Part No.
Rotor	13,00
Sleeve	13,05
Mechanical Seal	16,00
Wearing Ring	17,01
Chamber	18,03
Casing cover	18,04
Wearing Ring Retainer	18,10
Spacer	18,12
Chamber-Delivery	18,18
Impeller	19,00
Rear Cover	23,00
Motor Frame	24,00
Wound Stator	24,01
Base Plate	24,03
Deflector	25,01
Bracket	25,03
Cooling Fan Cover	27,00
Cooling Fan	27,02
Terminal Box Top	28,00
Terminal Box Bottom	28,01
Wiring Gland	28,03
Capacitor	28,04
Bolt	32,00
Nut	32,07
"O" Ring	32,09
Cooling Fan Split Pin	32,10
Drain Plug	32,11
Screw	32,12
Spring Washer	32,14
Stud	32,15
Wave Washer	32,17
Bearing	32,18
Gasket	32,19
Tie Rod	32,23

PERFORMANCE CURVES

FHS-13



FHS-26



PERFORMANCE TABLE

DN : 1" x 1"

PUMP MODEL	MOTOR POWER - P2		gpm m³/h	DISCHARGE					
	kW	HP		0	4	7	10	13	15,5
FHS-13-02	0,3	0,4	TOTAL MANOMETRIC HEAD IN FEET	82	74	66	57	47	35
FHS-13-03	0,37	0,5		130	118	109	97	81	64
FHS-13-04	0,55	0,75		161	142	127	112	94	78
FHS-13-05	0,75	1		223	202	184	161	134	111
FHS-13-06	0,9	1,2		240	217	200	177	148	118

PUMP MODEL	MOTOR POWER - P2		gpm m³/h	DISCHARGE					
	kW	HP		0	8	14	20	26	32
FHS-26/02	0,55	0,75	79	68	60	52	43	31	21
FHS-26/03	0,75	1	123	108	97	86	75	61	49
FHS-26/04	1,1	1,5	164	148	135	120	101	84	69

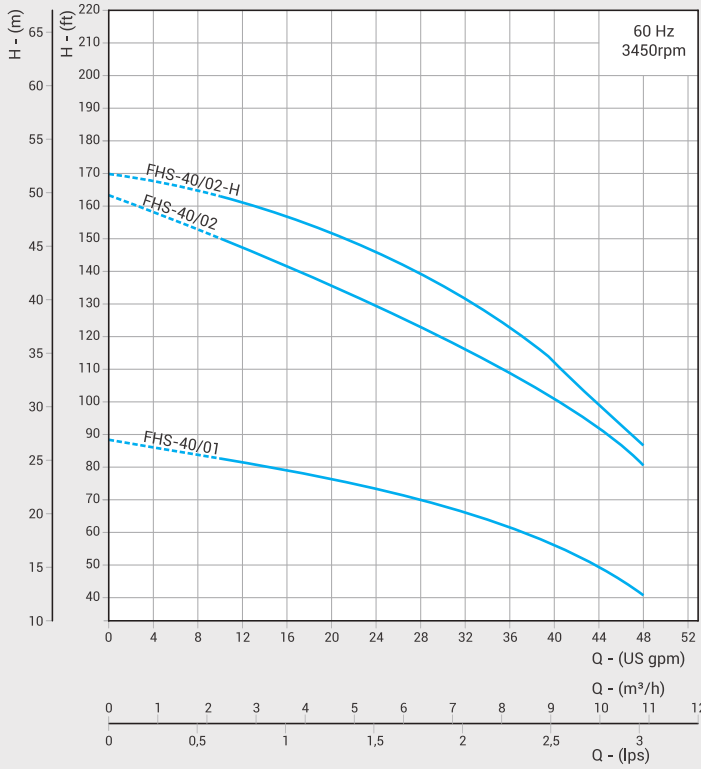
Replace the 3rd digit in model name as "C" for Cast Iron pump base & pump head models and "N" for AISI 316 construction.

The given performance is same for Type - C, S, N

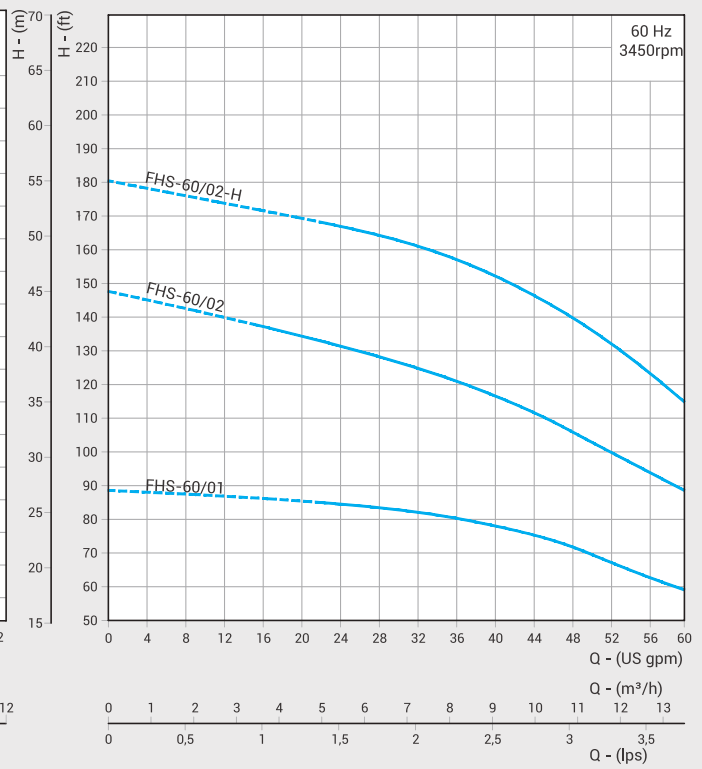
In view of the continuous developments the Information / Descriptions / Specifications / Illustrations are subject to change without notice.

PERFORMANCE CURVES

FHS-40



FHS-60



PERFORMANCE TABLE

DN : 1,5" x 1,25"

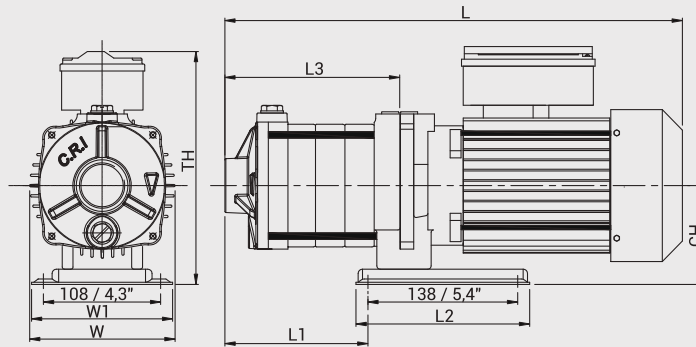
PUMP MODEL	MOTOR POWER - P2		gpm m³/h	DISCHARGE					
	kW	HP		0	12	24	32	40	48
FHS-40/01	0,75	1,0	TOTAL MANOMETRIC HEAD IN FEET	89	81	73,5	66	56	40
FHS-40/02	1,1	1,5		164	147	130	116	101	80
FHS-40/02-H	1,5	2,0		171	161	146	132	112	87

DN : 1,5" x 1,5"

PUMP MODEL	MOTOR POWER - P2		gpm m³/h	DISCHARGE					
	kW	HP		0	16	24	36	48	60
FHS-60/01	1,1	1,5	TOTAL MANOMETRIC HEAD IN FEET	89	86	84	80	72	58
FHS-60/02	2,2	3,0		148	137	132	121	106	88
FHS-60/02-H	3	4,0		181	171	167	157	140	115

DIMENSIONAL & WEIGHT DETAILS

FHS - 13 & 26



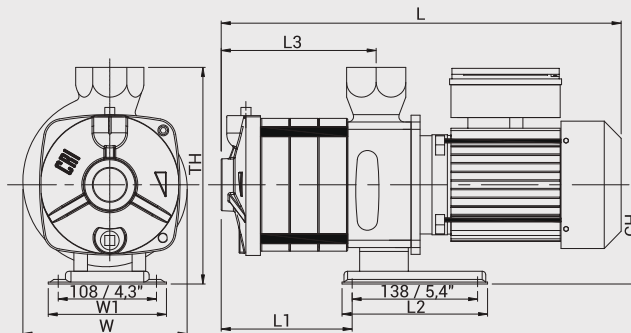
* All Dimensions are in mm & Inches.

DIMENSIONS & WEIGHT

Model	L				L1		L2		L3		W		W1		TH		CH		Approx. Weight	
	1Ph		3Ph		mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	kg	lb
	mm	Inch	mm	Inch																
FHS-13/02	335	13,2	325	12,8	70	2,8	160	6,3	99	3,9	134	5,3	130	5,1	215	8,5	90	3,5	13	29
FHS-13/03	363	14,3	343	13,5	89	3,5	160	6,3	118	4,6	134	5,3	130	5,1	215	8,5	90	3,5	14	31
FHS-13/04	362	14,3	362	14,3	108	4,3	160	6,3	137	5,4	134	5,3	130	5,1	215	8,5	90	3,5	15	33
FHS-13/05	415	16,3	400	15,7	127	5,0	160	6,3	156	6,1	134	5,3	130	5,1	215	8,5	90	3,5	16	35
FHS-13/06	409	16,1	419	16,5	146	5,7	160	6,3	175	6,9	134	5,3	130	5,1	215	8,5	90	3,5	17	37

Model	L				L1		L2		L3		W		W1		TH		CH		Approx. Weight	
	1Ph		3Ph		mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	kg	lb
	mm	Inch	mm	Inch																
FHS-26/02	354	13,9	333	13,1	79	3,1	160	6,3	108	4,3	134	5,3	130	5,1	215	8,5	90	3,5	13	29
FHS-26/03	396	15,6	401	15,8	107	4,2	160	6,3	135	5,3	134	5,3	130	5,1	215	8,5	90	3,5	15	33
FHS-26/04	444	17,5	424	16,7	135	5,3	160	6,3	162	6,4	134	5,3	130	5,1	215	8,5	90	3,5	16	35

FHS - 40 & 60



* All Dimensions are in mm & Inches.

DIMENSIONS & WEIGHT

Model	L				L1		L2		L3		W		W1		TH		CH		Approx. Weight	
	1Ph		3Ph		mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	kg	lb
	mm	Inch	mm	Inch																
FHS-40/01	369	14,5	349	13,7	52	2,0	160	6,3	72	2,8	181	7,1	130	5,1	238	9,8	109	4,3	17	37
FHS-40/02	409	16,1	424	16,7	82	3,2	160	6,3	102,5	4,0	181	7,1	130	5,1	238	9,8	109	4,3	21	46
FHS-40/02H	409	16,1	409	16,1	82	3,2	160	6,3	102,5	4,0	181	7,1	130	5,1	238	9,8	109	4,3	21,5	47

Model	L				L1		L2		L3		W		W1		TH		CH		Approx. Weight	
	1Ph		3Ph		mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	kg	lb
	mm	Inch	mm	Inch																
FHS-60/01	379	14,9	394	15,5	52	2,0	160	6,3	72	2,8	181	7,1	130	5,1	238	9,4	109	4,3	19	42
FHS-60/02	424	16,7	424	16,7	82	3,2	160	6,3	102,5	4,0	181	7,1	130	5,1	238	9,4	109	4,3	21,5	47
FHS-60/02H	465	18,3	465	18,3	82	3,2	160	6,3	102,5	4,0	181	7,1	130	5,1	238	9,4	109	4,3	30	66



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