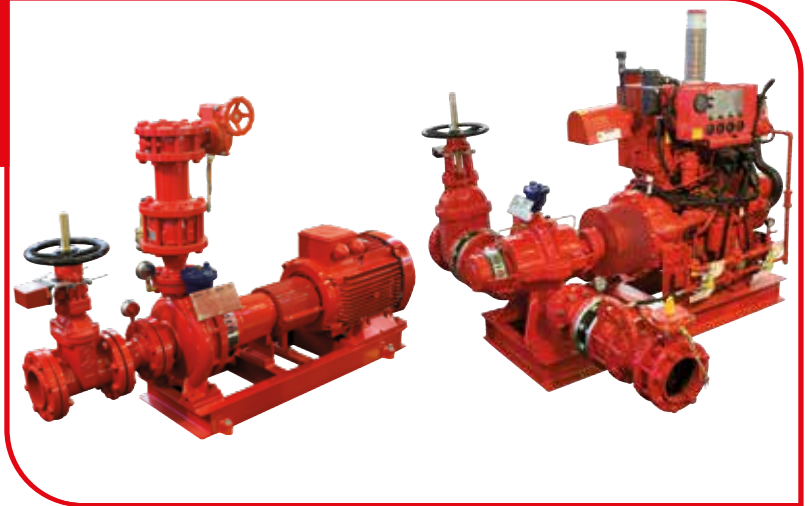


SDS / SNK

FIRE PUMPS



Who UL is and What UL does:

- UL (Underwriters Laboratories Inc.) is a global independent safety science company offering expertise across five key strategic businesses: Product Safety, Environment, Life & Health, University and Verification Services. Since the year UL founded in 1894, nearly 70,000 manufacturers in 100 countries have produced 20.000 different types of totally 20 billion UL Marked products.
- UL engineers scientifically investigate and test thousands of types of products, materials, constructions and systems to evaluate the electrical, fire and injury risks; the burglary or fire resistance; or the ability to detect, control or limit fires.
- UL has developed 1,200 Standards for Safety, which serve as the bedrock of compliance in over 200 industries.
- There is an “Online Certifications Directory” in UL’s website and all the products listed by UL can be found here.

UL Safety Standard: UL 448

- The requirements of this standard cover design and test features of centrifugal fire pumps intended for use in water-supply systems for fire-protection service.
- The pumps covered by these requirements are intended for installation and use in accordance with the Standard for the Installation of Stationary Pumps for Fire Protection, NFPA 20.

Who FM is and What FM does:

- FM (Factory Mutual) Global is one of the world’s largest business property insurers who also serves engineering solutions to be protected against basicly fire, natural disaster or other types of property risk.
- FM Approvals is a unit of FM Global who certifies industrial and commercial products and services for companies. When a product or service meets the standards of FM Approvals, it is issued the “FM APPROVED” mark to signify it will perform as expected.
- Currently there are 45.000 certified products and services and these are listed in “FM Approval Guide” which can be found in FM website.

FM Approvals Standard: 1311 / 1319

- FM Class 1311 states approval criteria for horizontal or vertical split case centrifugal fire pumps while FM Class 1319 states about horizontal end suction centrifugal fire pumps that supply water to fire protection systems.
- The requirements in these standards are mainly based on ANSI Hydraulics Institute (HI) and NFPA 20 standards.

General Information



Design Features According to UL & FM:

- Only the specified capacities in the below table are allowed for rated capacity. For capacities higher than 5000 GPM, 500 GPM increments are allowed.

GPM	m ³ /h	GPM	m ³ /h	GPM	m ³ /h
25	5.68	400	90.8	2000	454
50	11.3	450	102.2	2500	568
100	22.7	500	113.5	3000	681
150	34.0	750	170	3500	795
200	45.4	1000	227	4000	909
250	56.8	1250	284	4500	1022
300	68.1	1500	341	5000	1136

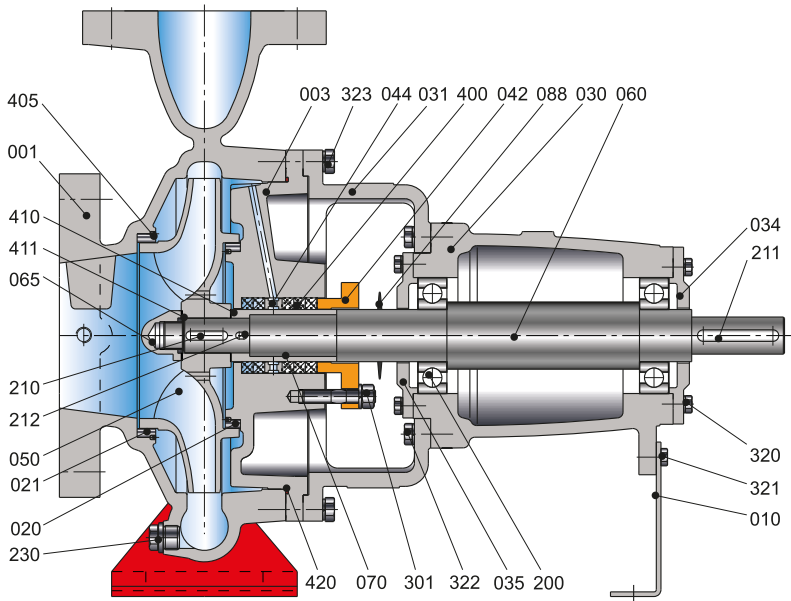
- All interior bolt or screw that are exposed to pumped liquid shall be of rolled bronze or corrosion resistant material
- The pump shall be provided with automatic air-release valve, circulation relief valve and pressure gauges
- Bearings shall have an L-10 rating of not less than 5000 hours at maximum load.
- The pumps shall be provided with at least four packing rings plus a lantern ring. The lantern ring may be permitted to replace one ring of packing.
- Impellers, wear rings, shafts, lantern rings, glands shall be made of corrosion resistant material.
- Following material specifications are applied to STANDART UL/FM fire pumps:

Part List	Definition	DIN 17007	EN-DIN	ASTM
Casing	Nodular Cast Iron	0.7040	GGG 40 (GJS-400-15)	A 536 Gr. 60-40-18
Impeller	Cast Bronze	2.1050.01	G-CuSn 10	B 584 C 90700
Shaft	Stainless Steel	1.4021	X20 Cr 13	A 276 Type 420
Shaft Seal	Stainless Steel	1.4401	X5 Cr Ni Mo 17-12-2	A 276 Type 316
Wear Ring	Bronz döküm	2.1050.01	G-CuSn 10	B 584 C 90700
Bolt & Screw	Paslanmaz çelik	1.4301	X5 Cr Ni 18-10	A276 Type 304

Sectional Drawings

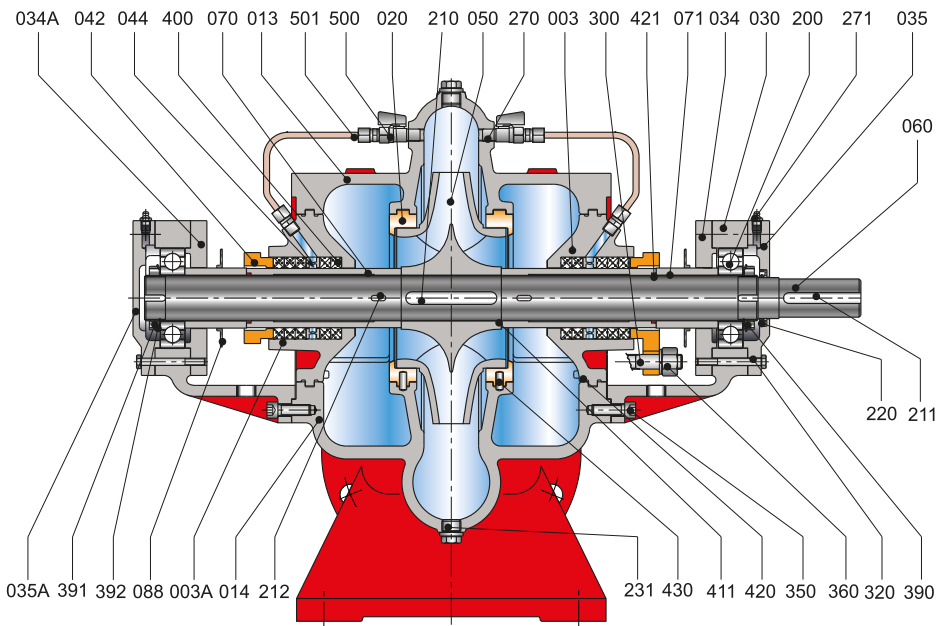


SNK 50-250 , SNK 65-250 , SNK 80-250



Part No	Part List
001	Volute Casing
003	Stuffing Box
010	Support Foot
020	Wear Ring (back)
021	Wear Ring (front)
030	Bearing Housing
031	Bearing Bracket Lantern
034	Bearing Cover (outboard)
035	Bearing Cover (inboard)
042	Stuffing Box Gland
044	Lantern Ring
050	Impeller
060	Shaft
065	Impeller Nut
070	Shaft Protecting Sleeve
088	Thrower
200	Ball Bearing
210	Impeller Key
211	Coupling Key
212	Sleeve Key
230	Drain Plug
301	Stud+Nut+Washer
320	Hex. Head Bolt
321	Hex. Head Bolt
322	Hex. Head Bolt
323	Hex. Head Bolt
400	Stuffing Box Packing
405	Set Screw
410	Gasket
411	Gasket
420	O-Ring

SDS 100-250 , SDS 125-315



Part No	Part List
003	Stuffing Box (right side)
003A	Stuffing Box (left side)
013	Volute Casing (top)
014	Volute Casing (bottom)
020	Wear Ring
030	Bearing Housing
034	Bearing Cover (inboard)
034A	Bearing Cover (inboard)
035	Bearing Cover (outboard)
035A	Bearing Cover (outboard)
042	Stuffing Box Gland
044	Lantern Ring
050	Impeller
060	Shaft
070	Shaft Protecting Sleeve
071	Sleeve (spacer)
088	Thrower
200	Ball Bearing
210	Impeller Key
211	Coupling Key
212	Key
220	Oil Seal
231	Drain Plug
270	Nipple
271	Grease Nipple
300	Stud
320	Hex. Head Bolt
350	Allen Screw
360	Nut
390	Locknut (non drive end)
391	Locknut (drive end)
392	Lock Washer
400	Stuffing Box Packing
411	Gasket
420	O-Ring
421	O-Ring
430	Pin
500	Valve
501	Flushing Pipe

Sectional Table



UL Listed & FM Approved Fire Pumps for 3000 rpm											
Pump Type	Capacity (GPM / m3/h)	Pressure (bar/psi)	Power (%100) (kW)	Power (%150) (kW)	Diesel Engine CLARKE Model Cooling Type		Diesel Engine Rated Power kW / HP (*)		Electric Motor Rated Power (kW)		
					Heat exch.	Radiator	Heat exch.	Radiator	Listed	Non-Listed	
SNK 50-250	200 / 45,4	6,4 / 93	13,5	16,6	JU4H-UJ14	JU4R-UJ13	53/71	50/66,5	15	18,5	
		7 / 101,5	15	18,4					18,5		
		8 / 116	17,6	21,6					22		
		9 / 130,5	20,4	24,9					22		
	10,34 / 150	24,1	29,3	30	30						
	250 / 56,8	6,27 / 91	15,3	19,1	JU4H-UJ14	JU4R-UJ13	53/71	50/66,5	18,5	18,5	
		7 / 101,5	17,1	21,3					22		
		8 / 116	19,8	24,2					22		
		9 / 130,5	22,7	28,4					30		
	10,34 / 150	26,7	33	30	37						
	SNK 65-250	300 / 68,1	6,06 / 88	16,6	21,1	JU4H-UJ14	JU4R-UJ13	53/71	50/66,5	18,5	22
			7 / 101,5	19,1	24,2					22	
8 / 116			22	28,1	30						
9 / 130,5			25,1	32,1	30						
10,2 / 148		29,1	37,2	37	37						
300 / 68,1		6,34 / 92	19,6	23,6	JU4H-UJ14	JU4R-UJ13	53/71	50/66,5	22	22	
		7 / 101,5	21,7	26,4					30		
		8 / 116	25,1	30,9					30		
		9 / 130,5	28,8	35,6					37		
9,8 / 142		32	39,7	37	37						
SNK 80-250		400 / 90,8	6,06 / 88	22,4	26,8	JU4H-UJ14	JU4R-UJ13	53/71	50/66,5	30	30
			7 / 101,5	25,9	31,4					30	
	8 / 116		29,7	36,6	37						
	9 / 130,5		33,9	42,2	37						
	9,78 / 142	37,2	46,7	45	45						
	450 / 102,2	5,79 / 84	23,6	27,7	JU4H-UJ14	JU4R-UJ13	53/71	50/66,5	30	30	
		7 / 101,5	28,2	33,9					30		
		8 / 116	32,3	39,4					37		
		9 / 130,5	36,6	45,4					45		
	9,71 / 141	39,7	49,7	45	55						
	SNK 80-250	450 / 102,2	6 / 87	25,9	29,8	JU4H-UJ14	JU4R-UJ13	53/71	50/66,5	30	30
			7 / 101,5	30	35,4					37	
8 / 116			34,5	40,7	37						
9 / 130,5			39,1	47,5	45						
10,2 / 148		45,1	53	56	55						
500 / 113,5		5,79 / 84	26,5	30,6	JU4H-UJ14	JU4R-UJ13	53/71	50/66,5	30	30	
		7 / 101,5	31,8	37,7					37		
		8 / 116	36,5	44					45		
		9 / 130,5	41,4	50					45		
10,2 / 148		47,5	57,8	56	55						

Sectional Table



UL Listed & FM Approved Fire Pumps for 3000 rpm											
Pump Type	Capacity (GPM / m ³ /h)	Pressure (bar/psi)	Power (%100) (kW)	Power (%150) (kW)	Diesel Engine CLARKE Model Cooling Type		Diesel Engine Rated Power kW / HP (*)		Electric Motor Rated Power (kW)		
					Heat exch.	Radiator	Heat exch.	Radiator	Listed	Non-Listed	
SDS 100-250	750 / 170	6,13 / 89	46,6	53	JU4H-UF14	JU4R-UF23	53/71	58/78	56	55	
		7 / 101,5	51,2	61,8	JU4H-UF24	-	62/83	-	56	75	
		8 / 116	56,8	70,9	JU4H-UF34	JU4R-UF53	86/115	99/133	75	75	
		9 / 130,5	62,6	78,8	JU4H-UF54	-	108/145	-	75	75	
		10 / 145	70,3	90,8	JU6H-UF34	-	131/175	-	93	90	
		11 / 159,5	79,7	102	JU4H-UF24	-	62/83	-	93	110	
	1000 / 227	1000 / 227	11,85 / 172	90,8	115,5	JU4H-UF34	JU4R-UF53	86/115	99/133	75	75
			5,86 / 85	52,1	60,9	JU4H-UF24	-	108/145	-	56	75
			7 / 101,5	60,5	74,9	JU4H-UF34	-	131/175	-	75	75
			8 / 116	68,3	87,7	JU4H-UF54	-	161/216	-	93	90
			9 / 130,5	76,5	101	JU6H-UF34	-	131/175	-	93	110
			10 / 145	85,9	113	JU6H-UF54	-	161/216	-	112	110
SDS 125-315	1250 / 284	11 / 159,5	96	126	JU6H-UF34	-	161/216	-	112	132	
		11,8 / 171	107	138,6	JU6H-UF54	-	205/275	-	130	160	
		8,06 / 117	93,1	108	JU4H-UF54	-	131/175	-	168	185	
		9 / 130,5	104	124	JU6H-UF34	-	161/216	-	187	200	
		10 / 145	117	142	JU6H-UF54	-	205/275	-	200	250	
		11 / 159,5	130	160	JU6H-UF84	-	-	-	200	250	
	1500 / 340	1500 / 340	12 / 174	146	179	JU6H-UF34	-	131/175	-	112	132
			13 / 188,5	164	200	JU6H-UF54	-	161/216	-	130	160
			13,72 / 199	178	216	JU6H-UF84	-	205/275	-	150	160
			7,72 / 112	98,6	115,5	-	-	-	-	168	185
			9 / 130,5	115	145	JU6H-UF34	-	131/175	-	187	200
			10 / 145	129	159	JU6H-UF54	-	161/216	-	200	250

(*) NOTE :

• Engines are rated at standard SAE conditions of 29.61 in. (752.1 mm) Hg barometer and 77°F (25°C) inlet air temperature [approximates 300 ft. (91.4 m) above sea level] by the testing laboratory (see SAE Standard J 1349).

• A deduction of 3 percent from engine horsepower rating at standard SAE conditions shall be made for diesel engines for each 1000 ft. (305 m) altitude above 300 ft. (91.4 m)

UL / FM Certificates



Certificate of Compliance

Certificate Number 20100608-EX15743
 Report Reference EX15743, 2010 April 29
 Issue Date 2010 June 8



Issued to: **STANDART POMPA VE MAKINA SAN VE TIC AS**

IDOS ORGANIZE SAN BOL
 2 CAD N9 Y DUDULLU
 UMRANIYE TURKEY

This is to certify that representative samples of **CENTRIFUGAL FIRE PUMPS, END SUCTION**
 Model designation: SNK 50-250, SNK 65-250, and SNK 80-250

Have been investigated by Underwriters Laboratories Inc.® (UL) or any authorized licensee of UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: Pumps for Fire-Protection Service, UL 448

Additional Information: See UL On-Line Certification Directory at www.UL.com for additional information.

Only those products bearing the UL Listing Mark should be considered as being covered by UL's Listing and Follow-Up Service.

The UL Listing Mark generally includes the following elements: the symbol UL in a circle, with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product

Issued by:
 William R. Carney
 Director, North American Certification Programs
 Underwriters Laboratories Inc.
 Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.
 For questions, please contact a local UL Customer Service Representative at <http://www.ul.com/global/csp/pages/contact-us>

Certificate of Compliance

Certificate Number 20100429-EX15693
 Report Reference EX15693, 2010 April 29
 Issue Date 2010 April 29



Issued to: **STANDART POMPA VE MAKINA SAN VE TIC AS**

IDOS ORGANIZE SAN BOL
 2 CAD N9 Y DUDULLU
 UMRANIYE TURKEY

This is to certify that representative samples of **CENTRIFUGAL FIRE PUMPS, SPLIT CASE**
 Models: SDS 100-250 and SDS 125-315

Have been investigated by Underwriters Laboratories Inc.® (UL) or any authorized licensee of UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: Pumps for Fire-Protection Service, UL 448

Additional Information: See UL On-Line Certification Directory at www.UL.com for additional information.

Only those products bearing the UL Listing Mark should be considered as being covered by UL's Listing and Follow-Up Service.

The UL Listing Mark generally includes the following elements: the symbol UL in a circle, with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

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 For questions, please contact a local UL Customer Service Representative at <http://www.ul.com/global/csp/pages/contact-us>



Certificate of Compliance

This certificate is issued for the following:

**CENTRIFUGAL FIRE PUMPS
 (HORIZONTAL END SUCTION TYPE)**

MODELS SNK 50-250, SNK 65-250 and SNK 80-250

Prepared for:

Standart Pompa ve Mak. San. Tic. A.S.
 Dudullu Organize San. Bol.
 2. Cadde, No: 9
 Esenkent - Ümraniye
 Istanbul, Turkey

Manufactured at:

Standart Pompa ve Mak. San. Tic. A.S.
 Dudullu Organize San. Bol.
 2. Cadde, No: 9
 Esenkent - Ümraniye
 Istanbul, Turkey

FM Approvals Class: 1319

Approval Identification: 0003039074 Approval Granted: June 9, 2011

Said Approval is subject to satisfactory field performance, continuing follow-up Facilities and Procedures Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.

For more than 160 years FM Approvals has partnered with business and industry to reduce property losses.

Richard B. Dunne
 Group Manager - Fire Protection
 FM Approvals
 1151 Boston-Providence Turnpike
 Norwood, MA 02062



Certificate of Compliance

This certificate is issued for the following:

**CENTRIFUGAL FIRE PUMPS
 (AXIAL SPLIT-CASE TYPE)**

MODELS SDS 100-250 AND SDS 125-315

Prepared for:

Standart Pompa ve Mak. San. Tic. A.S.
 Dudullu Organize San. Bol.
 2. Cadde, No: 9
 Esenkent - Ümraniye
 Istanbul, Turkey

Manufactured at:

Standart Pompa ve Mak. San. Tic. A.S.
 Dudullu Organize San. Bol.
 2. Cadde, No: 9
 Esenkent - Ümraniye
 Istanbul, Turkey

FM Approvals Class: 1311

Approval Identification: 0003038952 Approval Granted: June 3, 2011

Said Approval is subject to satisfactory field performance, continuing follow-up Facilities and Procedures Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.

For more than 160 years FM Approvals has partnered with business and industry to reduce property losses.

Richard B. Dunne
 Group Manager - Fire Protection
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 1151 Boston-Providence Turnpike
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