TRARGISA

PLEC DE PRESCRIPCIONS TÈCNIQUES PER AL SUBMINISTRAMENT DE RECANVIS I REPARACIÓ DE BOMBA PER A LA PVE DE CAMPDORÀ

CAPÍTOL 1.- CONSIDERACIONS GENERALS

Clàusula 1.1.- Antecedents

L'Àrea de Residus de TRARGISA té atribuïda la gestió del Tractament de Residus Sòlids Urbans de Girona Salt i Sarrià de Ter. Actualment estem a la fase final de la posada en marxa després d'una reforma en profunditat de la planta en la que s'han substituït de l'ordre del setanta-cinc per cent dels elements de la planta.

Durant aquesta posada en marxa s'ha avariat la bomba de caldera degut a causes alienes al contractista. Aquesta bomba és absolutament necessària per a fer funcionar de manera segura la caldera. És per això que ha de ser reparada quan abans.

La reparació de la bomba té un termini d'execució d'onze setmanes. Això significa que estarem onze setmanes amb la planta aturada sense incinerar residus. Per tant, haurem de transferir residus a d'altres plantes amb tots els inconvenients econòmics i logístics que això suposa.

Per a evitar la repetició d'aquesta incidència hem pres la decisió d'adquirir una bomba i un motor de recanvi. Amb això evitarem d'esperar aquest termini tan llarg en cas d'avaria d'aquestes parts.

Tant la reparació com l'adquisició d'aquestes parts les ha de portar a terme la UTE AESA-PASCH. El motiu és tècnic i de manteniment de garanties.

Clàusula 1.2.- Objecte del plec

L'objecte d'aquest document és establir les condicions tècniques per a la contractació del subministrament de recanvis i reparació de bomba per a la PVE de Campdorà.

CAPÍTOL 2 - CARACTERÍSTIQUES DEL SERVEI

Clàusula 2.1.- Descripció del servei de reparació

La reparació consisteix en:

- Desmuntatge de l'equip Flowserve MSCA 050 a TRARGISA
- Transport a taller homologat pel fabricant
- Reparació segons procediment homologat pel fabricant
- Transport a TRARGISA
- Muntatge i alineació de l'equip a TRARGISA i deixar en condicions òptimes de funcionament.

Clàusula 2.2.- Descripció del subministrament

1. Bomba de recanvi — Flowserve - SIHI multi MSC / MSC-050-A FPD - TF, 17 ETAPAS
2. Motor de recanvi — ABB 75 kW 3GBP281220-ADM +148+178+380+425+451+502+530+ +568+754+999

Els dos components equips han de complir les característiques indicades a l'annex d'aquest document.

CAPITOL 3: DESENVOLUPAMENT DEL CONTRACTE

Clàusula 3.1.- Condicions de realització del subminstrament i servei

El subministrament es realitzarà a TRARGISA igual que l'entrega de la bomba reparada.
L'adjudicatari del servei designarà a un responsable del servei, el que serà l'interlocutor amb PVE Campdorà, per qualsevol aspecte relacionat amb el servei.

En cas de qualsevol situació anòmala durant el servei, el responsable del servei per part de l'adjudicatari haurà d'informar telefònicament i per e-mail a la persona responsable de PVE Campdorà.

CAPÍTOL 4.- CONTROLS D'UTILITZACIÓ

Clàusula 4.1.- Seguretat i Salut.

L'adjudicatari haurà de complir amb els requeriments que es deriven de la Llei 31/1995, de 8 de novembre de prevenció de riscos laborals i del Reial Decret 171/2004 de 30 de gener pel que es desenvolupa l'article 24 de la Llei 31/1995 en matèria de coordinació d'activitats empresarials.

L'adjudicatari haurà d'aportar tota la documentació sol·licitada per TRARGISA en matèria de PRL pel mitjà que se li sol·liciti.

En el desenvolupament dels seus treballs compliran inexcusablement la normativa vigent sobre prevenció de riscos laborals, així com les instruccions, normes i/o procediments que siguin d'obligat compliment a l'empresa.

Girona, a data de la signatura electrònica

Joan Baró Guerra - DNI 40441216V (TCAT)
Firmado digitalmente por Joan Baró Guerra - DNI 40441216V (TCAT)
Fecha: 2026.01.16 16:44:25 +01'00'

Joan Baró Guerra
Cap de l'Àrea de Residus

AEA PASCH UTE	**HOJA DE DATOS DE BOMBAS DE AGUA DE CALDERA**	**REALIZADO**	A.H.S.
		COMPROBADO	C.G.D.
		APROBADO	C.G.D.
	Ref.: P529.03.PAS.T.M.008 / Rev.0	**FECHA**	18/09/2023

DENOMINACIÓN	BOMBAS DE ALIMENTACIÓN A CALDERA	**ITEM**	LAC 01 / 02 AP 001
		CANTIDAD	2

DESCRIPCIÓN

Grupo de bombeo 2 x 100% capacidad (1 titular, y 1 auxiliar), para alimentación de agua a alta presión a caldera.

Marca / modelo	Flowserve - SIHI multi MSC / MSC-050-A FPD - TF, 17 ETAPAS

CONDICIONES DE OPERACIÓN		
Líquido a bombear	Agua alimentación caldera (desaireada)	
Temperatura de trabajo	130	ºC
Dnesidad de trabajo	935	kg/m^3
Viscosidad cinemática	0,3	m^2/s
Presión de vapor	2,7	Bar.A
CARACTERÍSTICAS BOMBA		
Tipo	Centrífuga	
Número de etapas	17	
Disposición	Horizontal	
Velocidad	3000	rpm
Potencia hidráulica	31,3 - 39,6	kW
Rendimiento	62,9 - 67,9	%
Acoplamiento	Flexible, con espaciador y protector	
CONEXIONES		
Aspiración	EN 1092-1 DN 80 B1 PN16	
Impulsión	EN 1092-1 DN 50 B1 PN100	
DIMENSIONES Y PESOS MOTO-BOMBA (preliminares)		
Largo (máximo)	2791	mm
Ancho (máximo)	400	mm
Alto (máximo)	962	mm
Peso bomba		kg
Peso grupo		kg

CONDICIONES DE DISEÑO (ver notas)		
Caudal Mín / Máx	7,3 / 25,7	m^3 / h
Caudal nominal	20,3	m^3 / h
P descarga Nom / Máx	58,5 / 65	bar-A
Presión de aspiración	3,0	bar-A
Altura diferencial Nom / Máx	55,5 / 62	bar
NPSH disponible	3	m.c.a.
NPSH requerido (NPSH3)	1,3	m.c.a.
MOTOR		
Marca / modelo	(APTO Variador)	
Protección / Eficiencia	IP 55	Min. IE3
Potencia	75	kW
Velocidad	3000	rpm
Tensión	400	V
Fases / ciclos	III / 50	Hz
Arranque	Estrella / triangulo	
MATERIALES DE LA BOMBA (Clase C-6 ISO 13709)		
Cuerpo	12% Cr (1.4008 / SS 410)	
Impulsores	Inox. CrNiMo (1.4408 / 316SS)	
Carcasas de succión y descarga	12% Cr (1.4008 / SS 410)	
Eje	12% Cr (1.4021 / 420SS)	
Junta tórica (proceso) / Estopada	EPDM / Inox. 316 Ti	
Cierre mecánico	Inox. CrNiMo (1.4408 / 316SS)	

OBSERVACIONES

Bancada metálica (Acero estructural) para cada motobomba, pintura alta Tº, color gris aluminio

Nivel de ruido: 77 dBa @1m

Apto uso VFD

PTC´s en devanados uno por fase disparo 150º

Pt-100 en devanados a tres hilos uno por fase

Caja auxiliar para PTC´s y Pt-100

Tornillería inoxidable

Diseño *Top-Top* (posición radial superior de conexiones de aspiración y descarga)

Conforme ISO 5199

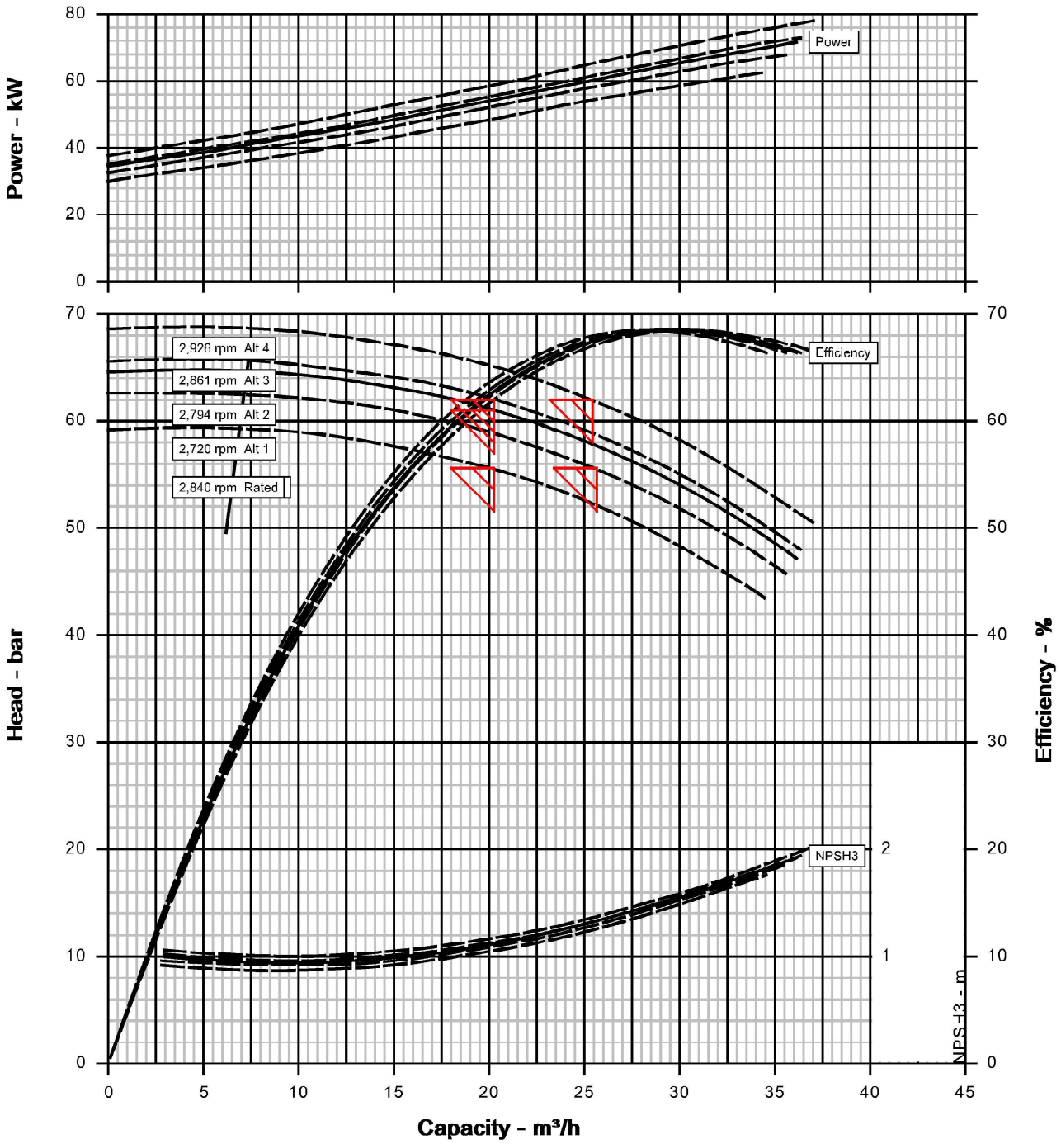
Conexiones auxiliares - BSPP (Rosca Gas)
- Succión
- Descarga
- Drenaje de carcasa
- Monitoreo de Temperatura de rodamientos
- Monitoreo de Vibración de rodamientos
- Drenaje de cierre mecánico

Se adjunta curva y hoja de datos del Fabricante.

Pump size & type / Stages	: MSC-050-A		/ 17
Based on curve no.	: MS-050-A-2-50		
Impeller diameter	: 170 mm		

Customer	: AE, SA	Capacity	: 20.3 m³/h
Item number	: Bombas Alimentación Caldera 23	Head	: 61.00 bar
Service	: -	Density / Specific gravity	: 933.76 kg/m³ / 0.935
Flowserve reference	: 3329750181	Pump speed	: 2,840 rpm
Date	: August 17, 2023	Ns / Nss (per eye)	: 987 / 9,700 (US)
		Test tolerance	: ISO 9906 Grade 2B

CURVES ARE APPROXIMATE, PUMP IS GUARANTEED FOR ONE SET OF CONDITIONS; CAPACITY, HEAD, AND EFFICIENCY.



FLOWSERVE

Hydraulic Datasheet

Customer	: AE, SA	Pump / Stages	: MSC-050-A	/ 17
Customer reference	: -	Based on curve no.	: MS-050-A-2-50	
Item number	: Bombas Alimentación Caldera 23	Flowserve reference	: 3329750181	
Service	: -	Date	: August 17, 2023	

	Unit	Rated Condition	Operación Normal	Alimentación de Ca...	Alivio HRSG
Operating Conditions					
Capacity	m³/h	20.3	20.3	25.7	20.3
Water capacity / CQ	m³/h	- / 1.00	- / 1.00	- / 1.00	- / 1.00
Normal capacity	m³/h	-	-	-	-
Total developed head	bar	61.00	55.53	55.53	62.00
Water head / CH	bar	- / 1.00	- / 1.00	- / 1.00	- / 1.00
NPSH available (NPSHa)	m	3.6	3.6	3.6	3.6
NPSHa less NPSH margin	m	-	-	-	-
Maximum suction pressure	bara	3.0	3.0	3.0	3.0
Rated suction pressure	bara	3.0	3.0	3.0	3.0
Liquid					
Liquid type		Fresh water	Fresh water	Fresh water	Fresh water
Liquid description		-	-	-	-
Temperature / Specific gravity	°C/	130 / 0.935	130 / 0.935	130 / 0.935	130 / 0.935
Solid Size - Actual / Limit	mm/mm	- / 0.254	- / 0.254	- / 0.254	- / 0.254
Viscosity / Vapor pressure	cSt/bara	0.30 / 2.67	0.30 / 2.67	0.30 / 2.67	0.30 / 2.67
Performance					
Actual head	bar	61.00	55.53	55.53	62.00
Hydraulic power	kW	34.4	31.3	39.6	35.0
Pump speed	rpm	2,840	2,720	2,794	2,861
Pump overall efficiency (CE=1.00)	%	63.1	64.2	67.9	62.9
NPSH required (NPSH3)	m	1.1	1.1	1.3	1.1
Rated brake power	kW	54.6	48.8	58.3	55.6
Maximum brake power	kW	71.5	62.8	68.0	73.1
Driver power rating	kW / hp	75.0 kW / 101 hp	75.0 kW / 101 hp	75.0 kW / 101 hp	75.0 kW / 101 hp
Casing working pressure	bara	67.6	62.3	65.5	68.6
(based on shut off @ cut dia/rated SG)					
Maximum allowable	bara	100.4	100.4	100.4	100.4
Hydrostatic test pressure	bara	151.0	151.0	151.0	151.0
Estimated rated seal chamber pressure	bara	3.5	3.5	3.5	3.5
Impeller diameter, Rated	mm	170	170	170	170
Impeller diameter, Maximum/Minimum	mm/mm	170 / 151	170 / 151	170 / 151	170 / 151
Ns / Nss (per eye)	(US)	987 / 9,700	987 / 9,700	987 / 9,700	987 / 9,700
Minimum continuous flow	m³/h	7.2	6.9	7.1	7.3
Maximum head at rated diameter	bar	64.58	59.24	62.50	65.54
Flow at BEP	m³/h	29.6	28.3	29.1	29.8
Flow as % of BEP	%	68.6	71.6	88.2	68.1
Efficiency at normal flow	%	-	-	-	-
Impeller diameter ratio (rated/max)	%	100.0	100.0	100.0	100.0
Head rise to shut off	%	5.9	6.7	12.6	5.7
Total head ratio (rated / max) / (max / rated)	%	88.9 / 112.5	80.9 / 123.6	84.9 / 117.9	90.3 / 110.8

Materials / Specification

Material column code	: TF	Pump specification	: -

Other Requirements

Hydraulic selection : No specification
Construction : No specification
Test tolerance : ISO 9906 Grade 2B
Variable Speed - Maximize Efficiency
Driver Sizing : Rated Power

FLOWSERVE

Hydraulic Datasheet

Customer	: AE, SA	Pump / Stages	: MSC-050-A	/ 17
Customer reference	: -	Based on curve no.	: MS-050-A-2-50	
Item number	: Bombas Alimentación Caldera 23	Flowserve reference	: 3329750181	
Service	: -	Date	: August 17, 2023	

	Unit	110%MCR	-	-	-
Operating Conditions					
Capacity	m³/h	25.4	-	-	-
Water capacity / CQ	m³/h	- / 1.00	- / -	- / -	- / -
Normal capacity	m³/h	-	-	-	-
Total developed head	bar	62.00	-	-	-
Water head / CH	bar	- / 1.00	- / -	- / -	- / -
NPSH available (NPSHa)	m	3.6	-	-	-
NPSHa less NPSH margin	m	-	-	-	-
Maximum suction pressure	bara	3.0	-	-	-
Rated suction pressure	bara	3.0	-	-	-
Liquid					
Liquid type		Fresh water	-	-	-
Liquid description		-	-	-	-
Temperature / Specific gravity	°C/	130 / 0.935	- / -	- / -	- / -
Solid Size - Actual / Limit	mm/mm	- / 0.254	- / -	- / -	- / -
Viscosity / Vapor pressure	cSt/bara	0.30 / 2.67	- / -	- / -	- / -
Performance					
Actual head	bar	62.00	-	-	-
Hydraulic power	kW	43.8	-	-	-
Pump speed	rpm	2,926	-	-	-
Pump overall efficiency (CE=1.00)	%	67.2	-	-	-
NPSH required (NPSH3)	m	1.4	-	-	-
Rated brake power	kW	65.2	-	-	-
Maximum brake power	kW	78.2	-	-	-
Driver power rating	kW / hp	75.0 kW / 101 hp	-	-	-
Casing working pressure	bara	71.6	-	-	-
(based on shut off @ cut dia/rated SG)					
Maximum allowable	bara	100.4	-	-	-
Hydrostatic test pressure	bara	151.0	-	-	-
Estimated rated seal chamber pressure	bara	3.5	-	-	-
Impeller diameter, Rated	mm	170	-	-	-
Impeller diameter, Maximum/Minimum	mm/mm	170 / 151	- / -	- / -	- / -
Ns / Nss (per eye)	(US)	987 / 9,700	- / -	- / -	- / -
Minimum continuous flow	m³/h	7.4	-	-	-
Maximum head at rated diameter	bar	68.55	-	-	-
Flow at BEP	m³/h	30.5	-	-	-
Flow as % of BEP	%	83.3	-	-	-
Efficiency at normal flow	%	-	-	-	-
Impeller diameter ratio (rated/max)	%	100.0	-	-	-
Head rise to shut off	%	10.6	-	-	-
Total head ratio (rated / max) / (max / rated)	%	94.5 / 105.9	- / -	- / -	- / -

Materials / Specification

Material column code	: TF	Pump specification	: -

Other Requirements

Hydraulic selection : No specification
Construction : No specification
Test tolerance : ISO 9906 Grade 2B
Variable Speed - Maximize Efficiency
Driver Sizing : Rated Power

FLOWSERVE

Construction Datasheet

Customer	: AE, SA	Pump / Stages	: MSC-050-A	/ 17
Customer reference	: -	Based on curve no.	: MS-050-A-2-50	
Item number	: Bombas Alimentación Caldera 23	Flowserve reference	: 3329750181	
Service	: -	Date	: August 17, 2023	

Construction

Nozzles	Size	Rating	Face	Position
Suction	DN 80	PN 16	RF	Top
Discharge	DN 50	PN 100	RF	Top

Casing mounting	: Foot
Casing split	: Radial
Impeller type	: Closed
Bearing type (radial)	: Sleeve, SiC/CrO2
Bearing number (radial)	: Not Applicable
Bearing type (thrust)	: Ball, Grease
Bearing number (thrust)	: 7309BG
Bearing lubrication	: Grease
Rotation (view from coupling)	: CCW per Hyd. Institute

Materials

Casing	: Chrome/Chrome/Chrome
Impeller	: SS/SS/SS
Case wear ring	: None
Impeller wear ring	: None
Inducer	: None
Shaft	: Chrome Steel
Sleeve	: Chrome Steel

Baseplate, Coupling and Guard

Baseplate type	: Fabricated Steel
Baseplate material	: Carbon Steel
Coupling manufacturer	: FPD Choice, w/Spacer
Coupling size	: AZR 60
Coupling / Shaft guard	: Carbon Steel

Weights (Approx.)

Bareshaft pump (net)	: 341.0 kg
Baseplate (net)	: *
Driver (net)	: 665.0 kg
Shipping gross weight/volume	: *** / ***

Testing

Hydrostatic test	: Non witnessed
Performance test	: None
NPSH test	: None

Paint and Package

Pump paint	: High Temp. Paint
Base grout surface prep	: High Temp. Paint
Shipment type	: -

Driver Information

Manufacturer	: ABB
Power	: 75.0 kW / 101 hp
Service factor (requested / actual)	: 1.0 / 1.0
Synchronous speed	: 3,000 rpm
Orientation / Mounting	: Horizontal / Foot
Driver type	: IE3
Frame-size / material	: 280M / Cast iron
Enclosure	: IP55
Hazardous area class	: None
Explosion 'T' rating	: None
Volts / Phase / Hz	: 400 / 3 / 50 Hz
Amps-full load/locked rotor	: 130.00 A / 910.00 A
Motor starting	: Direct on line (DOL)
Insulation	: F
Temperature rise	: -
Bearings	: Ball
Lubrication	: Grease
Motor mounted by	: Flowserve

Sound Pressure (dBA @ 1.0 m)

Driver, expected	: 77.0 dBA
Pump & driver, estimated	: 77.0 dBA

Seal Information

Arrangement	: Component (1 Seal)
Size	: 40 mm
Manufacturer / Type	: Eagle Burgmann / H7N
Material code (Man'f/API)	: AQ1EGG / -
Internal neck bushing	: -

Gland

Gland material	: 316Ti
Flush	: 2X G1/4
Vent	: G1/4
Drain	: G3/8
Auxiliary seal device	: -

Piping

Seal flush plan	: Other
Seal flush construction	: Tube
Seal flush material	: -
Aux seal flush plan	: -
Aux seal flush construction	: -
Aux seal flush material	: -

Notes

-

-

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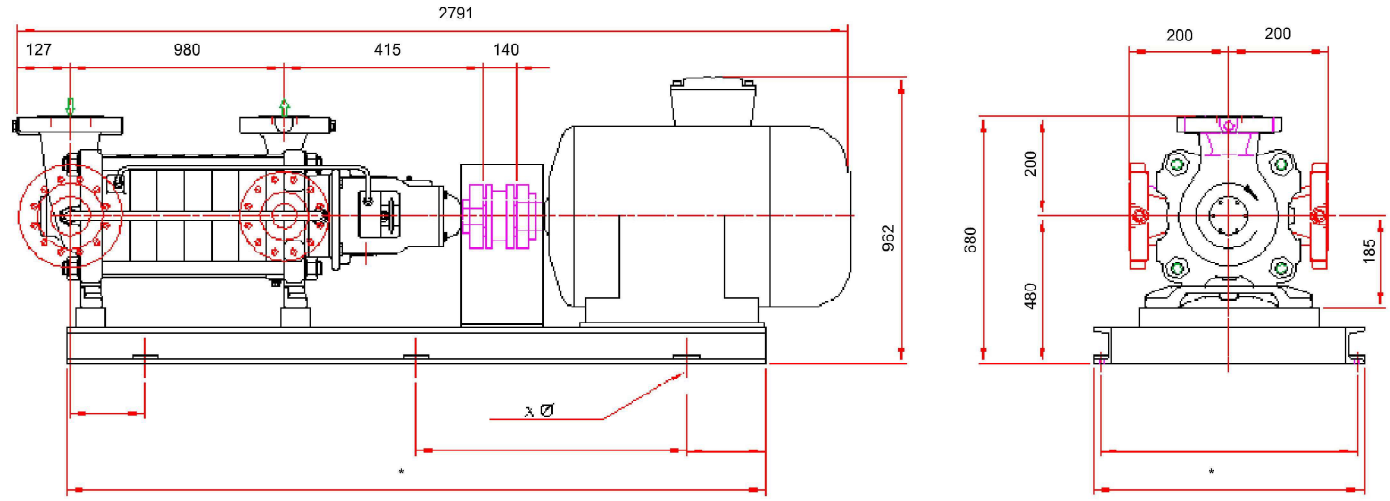
FLOWSERVE

Full Page GA Drawing



Notes:

- Consult pump U.I.M. before installing the pump.
- Foundation bolts and piping should not be set rigidly before receipt of equipment.
- Holes in flanges are offset from centerlines.
- Piping, foundations, and systems are the responsibility of others. Flowserve data and comments are offered as an aid, but Flowserve cannot assume responsibility for the system design or operation. It is recommended that a specialist skilled in this area be consulted to ensure a successful installation.

□ Rotation - CCW Viewed from Drive End

Suction Flange - Top
EN 1092, PN16, DN80, B1

Discharge Flange - Top
EN 1092, PN100, DN50, B1

PROVISIONAL DRAWING
Certified drawing avaible after order
Refer to factory for any "*" dimensions.
DO NOT SCALE DRAWING

-

Customer	: AE, SA	Pump size & type	: MSC-050-A	Drawing number	: -
Item number	: Bombas Alimentación Caldera 23	Pump speed / Stages	: 2,840 rpm / 17	Date	: August 17, 2023
Service	: -	Flow / Head	: 20.3 m³/h / 61.00 bar	Certified by / Date :	: -
Customer PO #	: -	Driver power / Frame	: 75.0 kW / 101 hp / 280M	Seal type	: H7N
Flowserve reference	: 3329750181	Volts / Phase / Hz	: 400 / 3 / 50 Hz	Seal flush plan	: Other

IEC LV Motors	Technical Data Sheet - DOL			
	Project		Location	
	FLOWSERVE OP-21-198412 AESA TR/		POZUELO	
Department/Author	Customer name		Customer ref	Item name
JESUS HOYUELOS	FLOWSERVE		ALEJANDRO SENEJOA	Alimentacion Calderas
Our ref.	Rev/Changed by	Date of issue	Saving ident	Pages
0411-MC3-41410467	A	25/07/2023	flowserve op-21-198412 aesa trarg	1(3)

No.	Definition	Data	Unit	Remarks	
1	Product	*TEFC, 3-phase, squirrel cage induction motor*			
2	Product code	*3GBP 281 220-ADM*		Calc. ref.	3GZF021028-55
3	Type/Frame	*M3BP 280SMB 2*			
4	Mounting	*IM1001, B3(foot)*			
5	Rated output P_N	*75*	kW		
6	Service factor	*1*			
7	Type of duty	*S1(IEC) 100%*			
8	Rated voltage U_N	*400*	VD	+10, -10 % (IEC 60038)	
9	Rated frequency f_N	*50*	Hz	+2, -2 % (IEC 60038)	
10	Rated speed n_N	*2980*	r/min		
11	Rated current I_N	*129*	A		
12	No-load current	*40*	A		
13	Starting current I_s/I_N	*7,3*		Meet IEC 60034-12, N	
14	Nominal torque T_N	*240*	Nm		
15	Locked rotor torque T_S/T_N	*2,5*			
16	Maximum torque T_{max}/T_N	*2,9*			
17	Minimum torque T_{min}/T_N	*2,0*			
18	Speed at minimum torque	*2250*	r/min		
	Load characteristics (IEC 60034-2-1:2014)	Load %	Current A	Efficiency %	Power factor
19	PLL determined from residual loss	*100*	**129**	**95,6 / IE4**	**0,87**
20		*75*	**101**	**95,6**	**0,84**
21		*50*	**75,0**	**94,9**	**0,76**
22		*Start*	**942**		**0,25**
23	Maximum starting time from hot	*21*	s		
24	Maximum starting time from cold	*37*	s		
25	Insulation class / Temperature class	*F / B*			
26	Ambient temperature	*40*	°C		
27	Altitude	*1000*	m.a.s.l.		
28	Enclosure	*IP55*			
29	Cooling system	*IC411 self ventilated*			
30	Bearing DE/NDE	*6316/C3 - 6316/C3*			
31	Type of Grease				
32	Sound pressure level (LP dB(A) 1m)	*77*	dB(A)	at load	
33	Moment of inertia J = ¼ GD2	*0,9*	kg-m2		
34	Balancing				
35	Vibration class				
36	Position of terminal box	*Top*			
37	Terminal box entries; no, dimens.				
38	Number of power terminals				
39	Direction of rotation	*CW or CCW*			
40	Weight of rotor	*120*	kg		
41	Total weight of motor	*665*	kg		
42	Dimension drawing no.				
43					
44					
45					
Ex-motors					
46					
47					
48					
Option	Variant Codes / Definition				
49					
50					
51					
52					

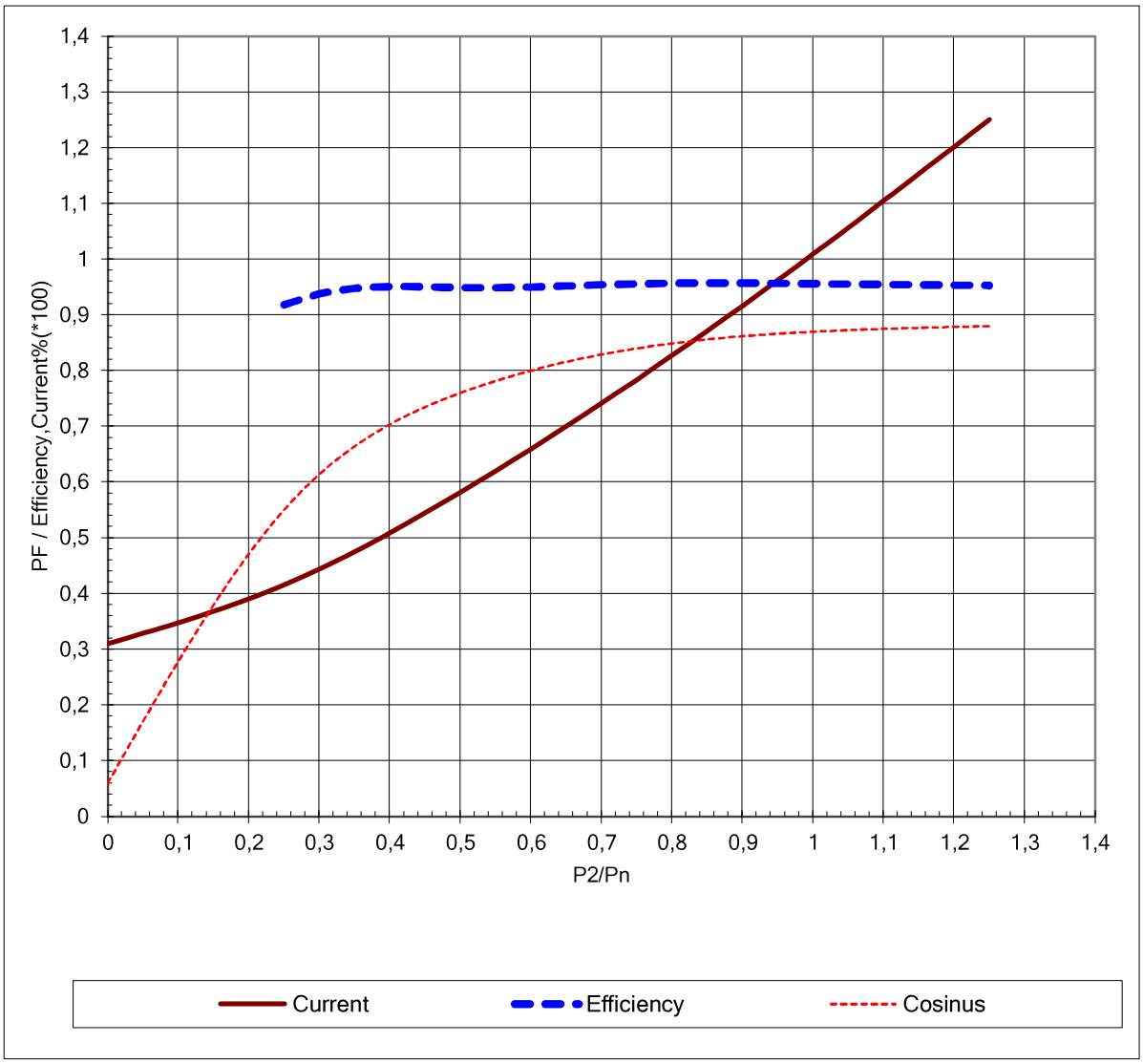
Remarks:

Data based on situation 13/07/2022
All data subject to tolerances in accordance with IEC
Guaranteed values on request

IEC LV Motors	Load Curves		
	Project	Location	
	FLOWSERVE OP-21-198412 AES	POZUELO	
Department/Author	Customer name	Customer ref	Item name
JESÚS HOYUELOS	FLOWSERVE	ALEJANDRO SENEJOA	Alimentación Calderas
Our ref.	Rev/Changed by / Date of issue	Saving ident	Pages
0411-MC3-41410467	A / 25/07/2023	flowserve op-21-198412 aesa trargisa	2(3)

Product	TEFC, 3-phase, squirrel cage induction motor		
Type/Frame	M3BP 280SMB 2	Calc. ref.	3GZF021028-55
Product code	3GBP 281 220-ADM		
Rated output P_N	75 kW		
Type of duty	S1(IEC) 100%		

Voltage (V)	400	Current I_N (A)	129	Power factor at P_N	0,87
Frequency (Hz)	50	Speed (r/min)	2980	Efficiency (%) at P_N	95,6



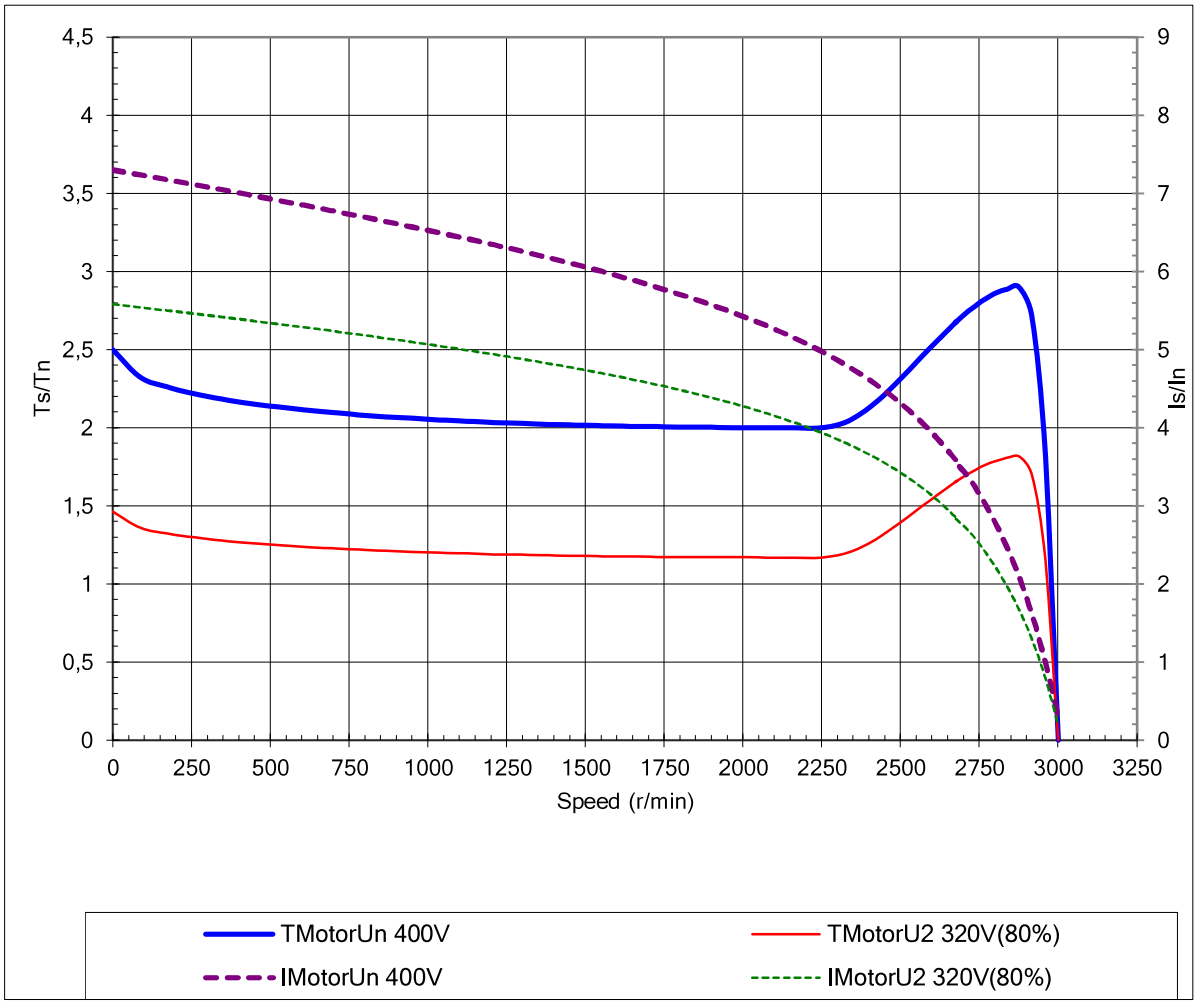
Load characteristics (IEC 60034-2-1:2014)
Data based on situation 13/07/2022

All data subject to tolerances in accordance with IEC

IEC LV Motors	Starting Curves			
	Project		Location	
	FLOWSERVE OP-21-198412 AESA		POZUELO	
Department/Author	Customer name		Customer ref	Item name
JESÚS HOYUELOS	FLOWSERVE		ALEJANDRO SENEJOA	Alimentación Calderas
Our ref.	Rev/Changed by	Date of issue	Saving ident	Pages
0411-MC3-41410467	A	25/07/2023	flowserve op-21-198412 aesa trargis	3(3)

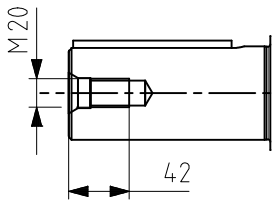
Type of product	TEFC, 3-phase, squirrel cage induction motor			
Type/Frame	M3BP 280SMB 2		Calc. ref.	3GZF021028-55
Product code	3GBP 281 220-ADM		Frequency (Hz)	50
Rated output P_N	75 kW		Rated current I_N	129 A
Type of duty	S1(IEC) 100%			

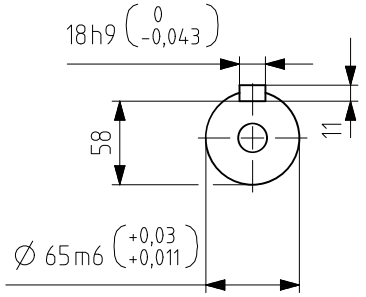
J_{motor} (kgm2)	0,9	Voltage (V) 100%	*400*	Voltage (V)	*320V(80%)*
J_{load} (kgm2)		T_{start}/T_N	*2,5*	T_{start}/T_N	*1,5*
Speed (r/min)	2980	Starting time (s)	*0,5*	Starting time (s)	
T_N (Nm)	240	Speed (r/min)		Speed (r/min)	*2948*
T_{load} (Nm)		I_s/I_n	*7,3*	I_s/I_n	*5,6*
Nbr. of Consecutive Star	Hot: 38 Cold: 68	T_{max}/T_n	*2,9*	T_{max}/T_n	*1,8*

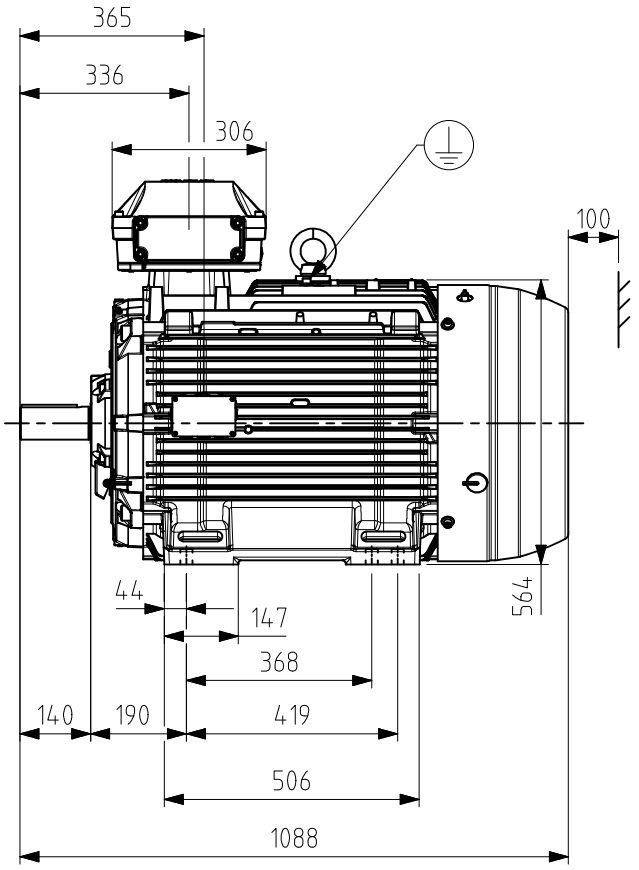


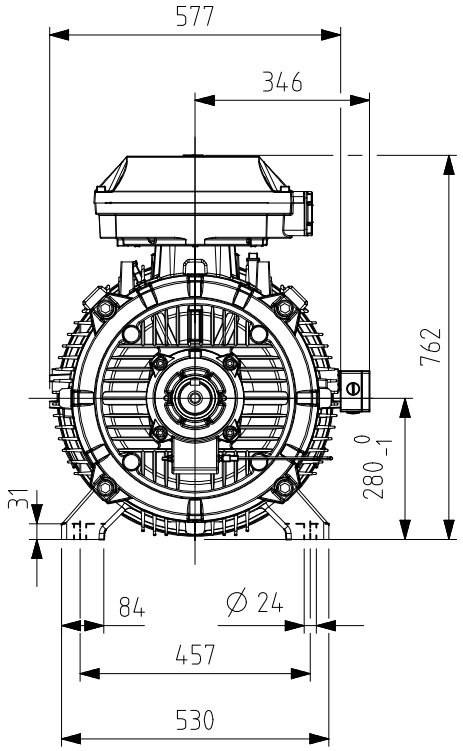
Load characteristics (IEC 60034-2-1:2014)
Data based on situation 13/07/2022

All data subject to tolerances in accordance with IEC









Additional information:

Dimension Print	Motor type: M3BP280 (G/K/L/M) SM_2; B3, V5, V6, B6, B7, B8 M3GP/HP 280SM_2 B3, B6, B7, B8, V6	Document No: 3GZF500028-1573 A

Description:
SQUIRREL CAGE MOTOR WITH SEPARATE TERMINAL BOX.

Unit: Motors and Generators Date: 08-Jan-2019	Issued by: Ketoja, Roope Approved by: Purontaka, Markku	Replaces: Replaced by:

ABB

Customer Reference: