

HIDROAGREGATE

LISTA DE REFERINȚĂ

- Turbine hidraulice
- Reglatoare
- Vane de intrare
- Generatoare electrice
- Sisteme de excitație
- Componente pentru turbine/generatoare

HYDROGENERATING UNITS

REFERENCE LIST

- Hydraulic turbines
- Governors
- Inlet valves
- Electric generators
- Excitation systems
- Components of turbines/generators

LIST OF SIGNS

GENERAL

#	Plant with units of different types / sizes
*	Equipment supplied by other manufacturer
*D	Equipment or part of equipment supplied by other manufacturer according to U.C.M.Resita working drawings
①	Equipment manufactured in co-operation with an other manufacturer or according to his drawings
②	Equipment manufactured under license

TURBINE TYPE

PO	Pelton turbine, horizontal
PO+PO	Pelton turbine, with two runners on the same shaft working at different heads
PV	Pelton turbine, vertical
FOM	Francis turbine, horizontal, metallic spiral case
FOD	Francis turbine, horizontal, open chamber
FVM	Francis turbine, vertical, metallic spiral case
KOS	Kaplan turbine, horizontal, s-shaped
KOT	Kaplan turbine, horizontal, bulb
KOTR	Kaplan turbine-pump, horizontal, bulb
KVB	Kaplan turbine, vertical, concret spiral case
KVM	Kaplan turbine, vertical, metallic spiral case
EOS	Propeller turbine, horizontal, s-shaped
EVB	Propeller turbine vertical, concret spiral case
EVS	Propeller turbine vertical, s-shaped

GENERATOR TYPE

HOS	Hydrogenerator, horizontal, synchronous
HOSC	Hydrogenerator, horizontal, synchronous, bulb
GMOCS	Generator-motor, horizontal, synchronous, bulb
HOA	Hydrogenerator, horizontal, asynchronous
HVS	Hydrogenerator, vertical, synchronous
GS	Generator synchronous
GA	Generator asynchronous
ME	Electric motor as generator

CONSTRUCTIVE TYPE

Defined by IEC Publ. 34 - 7, 1972

GOVERNOR TYPE

MH, RMH	Mechanical hydraulic speed governor
EH, REH	Electrical hydraulic (analog) speed governor
REHD	Electrical hydraulic, digital speed governor
RD	By-steps speed governor (discontinuous action)
RP	Relief valve (combined operation with speed governor)
SRC	Wicket gate (continuous) actuating system
SRCN	Wicket gate (continuous) actuating system by water level
SRD	By-steps wicket gate actuating system
SRDN	By-steps wicket gate actuating system by water level
MA	Mechanical (gear type) actuating system of the wicket gate opening
HA	Hydraulic actuating system
EGRK	LMZ Sankt Petersburg - Russia speed governor
RT81/ R570	
The other symbols	Neyrpc Grenoble - France speed governor electrical /mechanical
	Constructive symbols (turbine type, valve dia., variant number, year of design) for U.C.M. Resita governors

ACCUMULATOR TYPE

OA	Oil-air accumulator
ON	Oil-nitrogen accumulator
ONP	Oil-nitrogen accumulator - piston type
ONM	Oil-nitrogen accumulator with rubber membrane

INLET VALVE TYPE

VF	Butterfly valve, lens disc
VFB	Butterfly valve, biplane disc
VS	Spherical valve

EXCITATION SYSTEM

DC	D.C. rotating machine
AC	A.C. rotating machine
DR	Brushless (rotating diodes)
ST	Static

**DATELE CENTRALEI
PLANT DATA**

**TURBINA HIDRAULICĂ
HYDRAULIC TURBINE**

Nr. crt. Code	Centrala Plant	Râul River	Țara/ Beneficiar Country / Owner	Anul proiect. Year of design	Nr. agreg Units	Tip turbină Turbine type	Tip generator Generator type	Tip constr. hidroagregat Unit constr. type	Diametrul rotor Runner Diameter [mm]	Putere Output [kW]	Cădere Head [m]	Turație Speed [rpm]
1	Crăiniceș #	Bârzava	RO -CSR	1949	2	PO + PO	HOS	IM 7311	1060 930	1840 1100	434 323	750
2	Crăiniceș #	Bârzava	RO -CSR	1950	2	FOM	HOS	IM 7311	624	1100	68	750
3	Târgu - Mureș #	Mureș	ELECTRICA	1950	2	EVV	HVS	IM 8421	1980	550	4.85	750
4	Târgu - Mureș #	Mureș	HIDROELECTRICA	1950	1	KVB	HVS	IM 8421	1980	550	4.85	750
5	Roznov II	Bistrița	HIDROELECTRICA -B	1960	2	KVB	HVS	IM 8421	2750	7240	20	250
6	Pângărați	Bistrița	HIDROELECTRICA -B	1961	2	KVB	HVS	IM 8421	4100	11600	14.5	136.4
7	Piatra - Neamț	Bistrița	HIDROELECTRICA -B	1961	2	KVB	HVS	IM 8421	2600	5650	15.3	214.3
8	Buhuși	Bistrița	HIDROELECTRICA -B	1961	2	KVB	HVS	IM 8421	2600	6000	15.5	214.3
9	Zănești	Bistrița	HIDROELECTRICA -B	1962	2	KVB	HVS	IM 8421	2750	7350	19.5	250
10	Costișa	Bistrița	HIDROELECTRICA -B	1962	2	KVB	HVS	IM 8421	2750	7350	19.5	250
11	Racova	Bistrița	HIDROELECTRICA -B	1963	2	KVB	HVS	IM 8221	4100	12000	14	136.4
12	Gârlești	Bistrița	HIDROELECTRICA -B	1963	2	KVB	HVS	IM 8221	4100	12500	15	136.4
13	Bacău I	Bistrița	HIDROELECTRICA -B	1963	2	KVB	HVS	IM 8221	4100	12500	15.3	136.4
14	Vaduri	Bistrița	HIDROELECTRICA -B	1963	2	KVB	HVS	IM 8421	4000	23400	26.2	166.7
15	Bacău II	Bistrița	HIDROELECTRICA -B	1964	4	KVB	HVS	IM 8421	2750	7880	18.5	250
16	Baia Mare	Firiza	RO -CMBM	1965	1	KVM	HVS	IM 8421	1400	4200	38	428.6
17	Oiești	Argeș	HIDROELECTRICA -A	1965	2	KVB	HVS	IM 8421	2750	8220	19.7	250
18	Albești	Argeș	HIDROELECTRICA -A	1965	2	KVB	HVS	IM 8421	2750	8270	20.25	250
19	Cerbureni	Argeș	HIDROELECTRICA -A	1965	2	KVB	HVS	IM 8421	2750	8250	20	250
20	Valea Iașului	Argeș	HIDROELECTRICA -A	1965	2	KVB	HVS	IM 8421	2750	8250	20	250
21	Paltinul	Doftana	HIDROELECTRICA -B	1967	2	FVM	HVS	IM 8421	1000	5350	80	600
22	Iron Gates I	Danube	HIDROELECTRICA -PF	1968	3 3	KVB * KVB ⊕	HVS * HVS ⊕	IM 8310 IM8310	9500 9500	178000 178000	27.16 27.16	71.5 71.5
23	Luduș restitution	Mureș	TERMOELECTRICA -L	1968	2	KVB	HVS	IM 8421	1500	570	7.2	250
24	Deva restitution	Mureș	TERMOELECTRICA -D	1969	1	KVB	HVS	IM 8421	3400	1400	5.3	100
25	Bascov	Argeș	HIDROELECTRICA -A	1969	2	KVB	HVS	IM 8221	3200	4000	10.2	136.4
26	Pitești II	Argeș	HIDROELECTRICA -A	1969	2	KVB	HVS	IM 8221	3200	4000	10.2	136.4
27	Curtea de Argeș	Argeș	HIDROELECTRICA -A	1969	2	KVB	HVS	IM 8221	3200	4000	10.2	136.4
28	Lotru	Lotru	HIDROELECTRICA -RV	1969	1 2	PV * PV ⊕	HVS * HVS ⊕	IM 8510 IM8510	2950 2950	174250 174250	731 731	375 375
29	Noapteaș	Argeș	HIDROELECTRICA -A	1970	1 1	KVB KVB	HVS HVS	IM 8421 IM 8421	2700 2700	8200 8200	19.2 19.2	214.3 214.3
30	Zigoneni	Argeș	HIDROELECTRICA -A	1970	2	KVB	HVS	IM 8421	2700	8200	19.2	214.3
31	Băiculești	Argeș	HIDROELECTRICA -A	1970	2	KVB	HVS	IM 8421	2700	8200	19.2	214.3
32	Râmnicu Vâlcea	Olt	HIDROELECTRICA -RV	1971	2	KVB	HVS	IM 8310	5400	24000	16	100
33	Govora	Olt	HIDROELECTRICA -RV	1971	2	KVB	HVS	IM 8310	5400	24000	16	100
34	Grebla	Bârzava	RO -CSR	1971	2	FOM	HOS	IM 7311	1120	5600	211	750
35	Târnița	Someș	HIDROELECTRICA -C	1971	1 1	FVM FVM	HVS HVS	IM 8421 IM 8421	2100 2100	23200 23200	78 78	300 300

GENERATOR

REGULATOR GOVERNOR

VANĂ INTRARE INLET VALVE

Nr. crt. Code	Putere	Turație	Tensiune	Factor de putere	GD ²	Sistem de excitație Excitation system	Tip regulator Governor type	Diametru sertar Governor valve dia.	Presiune ulei Oil pressure	Tip/volum acumulator Accumulator type /size	Tip vană intrare Inlet valve type	Diametru Vană Valve dia	Anul PIF Commissioning year
	[kVA]	[rpm]	[V]		[tm ²]								
1	4200	750	6300	0.9	10.7	DC	MH						1954
2	1700	750	6600	0.7	5	DC	MH						1954
3	700	750	6300	0.7	1.6	DC	MH*				-	-	1951
4	700	750	6300	0.7	1.6	DC	MH*				-	-	1951
5	8500	250	6300	0.9	312	DC	MH (K100)	100	20	OA - 3.2	-	-	1964
6	12500	136.4	6300	0.9	1980	DC	EGRK*	100	20	OA - 5	-	-	1964
7	6200	214.3	6300	0.9	323	DC	EGRK*	100	20	OA - 2.5	-	-	1965
8	6200	214.3	6300	0.9	323	DC	EGRK*	100	20	OA - 2.5	-	-	1965
9	8500	250	6300	0.9	300	DC	EGRK*	100	20	OA - 3.2	-	-	1964
10	8500	250	6300	0.9	300	DC	EGRK*	100	20	OA - 3.2	-	-	1964
11	12800	136.4	6300	0.9	1980	DC	EGRK*	100	20	OA - 5	-	-	1964
12	13100	136.4	6300	0.9	1980	DC	EGRK*	100	20	OA - 5	-	-	1965
13	13400	136.4	6300	0.9	1980	DC	EGRK*	100	20	OA - 5	-	-	1966
14	25000	166.7	10500	0.9	2831	DC	EGRK*	100	30	OA - 1.5	-	-	1966
15	9500	250	6300	0.85	300	DC	EGRK*	100	20	OA -3.2	-	-	1966
16	5000	428.6	6300	0.8	50	DC	EGRK*	40	30	OA - 1.5	VF	2000	1967
17	8850	250	6300	0.9	300	DC	EGRK - 2*	100	20	OA - 3.2	-	-	1967
18	8850	250	6300	0.9	300	DC	EGRK - 2*	100	20	OA - 3.2	-	-	1967
19	8850	250	6300	0.9	300	DC	EGRK - 2*	100	20	OA - 3.2	-	-	1968
20	8850	250	6300	0.9	300	DC	EGRK - 2*	100	20	OA - 3.2	-	-	1969
21	5800	600	6300	0.9	37	DC	MH (F40)	40	25	OA - 0.45	VF	1400	1972
22	190000 190000	71.5 71.5	15750 15750	0.9 0.9	82000 82000	AC + ST AC + ST	EGRK - 2* EGRK - 2*	250 250	40 40	OA - 36 OA - 36	-	-	1970-1973 1970-1973
23	630	250	6300	0.85	12	DC	MH (K30)	30	25	OA - 0.45	-	-	1972
24	1530	100	6300	0.85	325	DC	MH (F40)	40	25	OA - 1.6	-	-	1969
25	4300	136.4	6300	0.9	325	DC	MH (K40)	40	25	OA - 2	-	-	1971
26	4300	136.4	6300	0.9	325	DC	MH (K40)	40	25	OA - 2	-	-	1972
27	4300	136.4	6300	0.9	325	DC	MH (K40)	40	25	OA - 2	-	-	1972
28	185000 185000	375 375	15750 15750	0.9 0.9	2700 2700	ST ST	RT 81* RT 81*	50 50	40 40	OA - 4 OA - 4	VS VS	1200 1200	1972 1972-1973
29	8850 8850	214.3 214.3	6300 6300	0.9 0.9	295 295	DC DC	R 570* MH - 50.01K ⊗	50 50	25 25	OA - 3.2 OA - 3.2	-	-	1973 1973
30	8850	214.3	6300	0.9	295	DC	MH - 50.01K	50	25	OA - 3.2	-	-	1973
31	8850	214.3	6300	0.9	295	DC	MH - 50.01K	50	25	OA - 3.2	-	-	1974
32	26000	100	10500	0.9	6300	DC	MH - 50.01K	50	40	OA - 8	-	-	1974
33	26000	100	10500	0.9	6300	DC	MH - 50.01K	50	40	OA - 8	-	-	1975
34	6800	750	6300	0.8	30	DR	MH (F30)	40	25	OA - 2.5	VS	750	1975
35	25500 25500	300 300	10500 10500	0.9 0.9	577 577	DC DC	RT 81* EH - 50.01K ⊗	50 50	25 25	OA - 2.5 OA - 2.5	VF VF	2700 2700	1974 1974

**DATELE CENTRALEI
PLANT DATA**

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HYDRAULIC TURBINE**

Nr. crt. Code	Centrala Plant	Râul River	Țara/ Beneficiar Country / Owner	Anul proiect. Year of design	Nr. agreg Units	Tip turbină Turbine type	Tip generator Generator type	Tip constr. hidroagregat Unit constr. type	Diametrul rotor Runner Diameter [mm]	Putere Output [kW]	Cădere Head [m]	Turație Speed [rpm]
36	Dăiești	Olt	HIDROELECTRICA-RV	1972	2	KVB	HVS	IM 8211	5400	19500	13.25	93.8
37	Leșu	Criș	HIDROELECTRICA-C	1972	1	FVM	HVS	IM 8421	1060	3700	50	500
38	Poiana Uzului #	Uz	HIDROELECTRICA-B	1972	1	FVM	HVS	IM 8421	1000	3600	72	600
39	Poiana Uzului #	Uz	HIDROELECTRICA-B	1972	1	FOM	HOS	IM 7311	450	747	54	1000
40	HEPP China		CHINA	1973	2 2	KVB KVB	HVS HVS	IM 8211 IM 8211	5500 5500	37000 37000	18 18	107.1 107.1
41	Minicești	Argeș	HIDROELECTRICA-A	1973	2	KVB	HVS	IM 8421	3000	6000	14.3	166.7
42	Merişani	Argeș	HIDROELECTRICA-A	1973	2	KVB	HVS	IM 8421	3000	6000	14.3	166.7
43	Budeasa	Argeș	HIDROELECTRICA-A	1973	2	KVB	HVS	IM 8421	3000	6000	14.3	166.7
44	Vâlcele	Argeș	HIDROELECTRICA-A	1973	2	KVB	HVS	IM 8421	2700	8200	19.2	214.3
45	Mărișelu	Someș	HIDROELECTRICA-C	1973	3	FVM	HVS	IM 8421	2250	85500	440	600
46	Râureni	Olt	HIDROELECTRICA-RV	1973	2	KVB	HVS	IM 8211	5400	24800	16.7	100
47	Motru	Motru	HIDROELECTRICA-PF	1974	2	FVM	HVS	IM 8421	1250	31500	188	750
48	Mălaia	Lotru	HIDROELECTRICA-RV	1974	2	KVB	HVS	IM 8421	2750	9300	21.2	214.3
49	Gâlceag	Sebeș	HIDROELECTRICA-S	1974	2	FVM	HVS	IM 8421	2250	83500	423	600
50	Stâncă Costești	Pрут	HIDROELECTRICA-B	1974	1	KVB	HVS	IM 8421	3300	16000	27.3	187.5
51	Șugag	Sebeș	HIDROELECTRICA-S	1974	2	FVM	HVS	IM 8421	2600	78000	326	428.6
52	Băbeni	Olt	HIDROELECTRICA-RV	1974	2	KVB	HVS	IM 8310	5400	20250	13.75	93.8
53	Ionești	Olt	HIDROELECTRICA-RV	1974	2	KVB	HVS	IM 8310	5400	20250	13.75	93.8
54	Gilău I	Someș	HIDROELECTRICA-C	1975	1	KVB	HVS	IM 8421	3000	5700	14.3	166.7
55	Brădișor	Lotru	HIDROELECTRICA-RV	1975	2	FVM	HVS	IM 8421	2000	57500	128.5	375
56	Străjești	Olt	HIDROELECTRICA-SL	1976	2	KVB	HVS	IM 8310	5400	26000	17.6	100
57	Pucioasa	Ialomița	HIDROELECTRICA-B	1976	2	FOM	HOS	IM7211	1060	1050	20	333.3
58	Cibin	Cibin	ELECTRICA	1976	1	FVM	HVS	IM 8421	1060	3700	53	500
59	Slatina #	Olt	HIDROELECTRICA-SL	1976	1	KOT	HOSC	IM 7301	5000	13700	9.5	88.2
60	Slatina #	Olt	HIDROELECTRICA-SL	1976	1	KOTR	GMOSC	IM 7301	5000	13020 11100	9.5 13.3	107.1
61	Arcești	Olt	HIDROELECTRICA-SL	1976	2	KVB	HVS	IM 8310	5400	20000	13.65	93.8
62	Zăvideni	Olt	HIDROELECTRICA-RV	1976	2	KVB	HVS	IM 8310	5400	20000	13.65	93.8
63	Drăgășani	Olt	HIDROELECTRICA-RV	1977	2	KVB	HVS	IM 8310	5400	23000	15.67	100
64	Călimănești	Olt	HIDROELECTRICA-RV	1977	2	KVB	HVS	IM 8320	5400	19800	13.6	93.8
65	Călinești		ELECTRICA	1977	2	EOS	ME	IM 7311	1100	426	6.95	357
66	Tismana	Tismana	HIDROELECTRICA-PF	1977	2	FVM	HVS	IM 8421	2300	61500	234	428.6
67	Turnu	Olt	HIDROELECTRICA-RV	1977	2	KVB	HVS	IM 8211	5500	36250	24	115.4
68	Bucecea #	Siret	HIDROELECTRICA-B	1978	1	EVV	HVS	IM 8421	1900	1100	9	200
69	Bucecea #	Siret	HIDROELECTRICA-B	1978	1	FOM	ME	IM 7311	550	77	9	428.6
70	Petrești	Sebeș	HIDROELECTRICA-S	1978	2	KOT	HOSC	IM 7101	2000	2160	9.5	214.3
71	Belci		ELECTRICA	1978	2	EOS	ME	IM 7311	1100	645	12	446
72	Retzat	Râul Mare	HIDROELECTRICA-H	1978	2	FVM	HVS	IM 8421	2850	170500	526	500
73	Clocotiș	Clocotiș	HIDROELECTRICA-PF	1978	1	FVM	HVS	IM 8421	1160	12800	115.6	600

GENERATOR

REGULATOR GOVERNOR

VANĂ INTRARE INLET VALVE

Nr. crt. Code	Putere Power [kVA]	Turație Speed [rpm]	Tensiune Voltage [V]	Factor de putere Power factor	GD ² WD ² [tm ²]	Sistem de excitație Excitation system	Tip regulator Governor type	Diametru sertar Governor valve dia. [mm]	Presiune ulei Oil pressure [bar]	Tip/volum acumulator Accumulator type /size [m ³]	Tip vană intrare Inlet valve type	Diametru Vană Valve dia [mm]	Anul PIF Commissioning year
36	21000	93.8	10500	0.9	6240	DC	MH - 50.08K	50	40	OA - 8	-	-	1976
37	4180	500	6300	0.9	35	DC	MH (F30)	30	25	OA - 0.45	VF	1400	1977
38	3800	600	6300	0.9	20	DC	MH (F30)	40	25	OA - 0.45	VF	1400	1977
39	785	1000	6300	0.9	0.3	DC	SRCN	25	16	SPRING	VF	600	1977
40	42500 42500	107.1 107.1	10500 10500	0.85 0.85	7600 7600	DC DC	RT 81* R 570*	100 100	25 25	OA - 10 OA - 10	-	-	1976 1977
41	6400	166.7	6300	0.9	355	DC	MH - 50.08K	50	25	OA - 2	-	-	1975
42	6400	166.7	6300	0.9	355	DC	MH - 50.08K	50	25	OA - 2	-	-	1976
43	6400	166.7	6300	0.9	355	DC	MH - 50.08K	50	25	OA - 2	-	-	1978
44	8850	214.3	6300	0.9	295	DC	MH - 50.08K	50	25	OA - 2	-	-	1976
45	90000	600	15750	0.9	500	DC	EH - 50.02F	50	40	OA - 5	VS	1600	1977
46	28000	100	10500	0.9	6550	DC	MH - 50.09K	50	40	OA - 8	-	-	1977
47	34000	750	10500	0.9	82	DC	EH - 50.03F	50	40	OA - 1	VS	1400	1979
48	10000	214.3	6300	0.9	320	DR	MH - 50.09K	50	25	OA - 3.2	-	-	1978
49	83000	600	15750	0.9	500	DC	EH - 50.03F	50	40	OA - 5	VS	1600	1980
50	19400	187.5	10500	0.8	935	DR	MH - 50.09K	50	25	OA - 2.5	-	-	1978
51	85000	428.6	15750	0.9	1204	DC	EH - 50.03F	50	40	OA - 5	VS	1800	1984
52	21000	93.8	10500	0.9	6000	DR	MH - 50.09K	50	40	OA - 8	-	-	1978
53	21000	93.8	10500	0.9	6000	DC	MH - 50.09K	50	40	OA - 8	-	-	1978
54	6400	166.7	6300	0.9	390	DR	RD	25	25	OA - 2	-	-	1977
55	62000	375	10500	0.9	830	DR	EH - 50.03F	50	40	OA - 4	VFB	2800	1982
56	30000	100	10500	0.9	6550	DC	EH - 50.03K	50	40	OA - 8	-	-	1979
57	1230	333.3	6300	0.8	-	DC	SRD	-	63	SPRING	VF	1400	1979
58	4180	500	6300	0.85	42	DR	SRD	-	63	ON - 0.1	VF	1600	1981
59	13650	88.2	6300	0.975	480	ST	EH - 100.04K	100	40	OA - 12.5	-	-	1981
60	13330 11500	107.1	6300 6000	0.975 0.9	680	ST	EH - 100.04K	100	40	OA - 12.5	-	-	1981
61	22000	93.8	10500	0.9	6240	DC	EH - 50.03K	50	40	OA - 8	-	-	1980
62	22000	93.8	10500	0.9	6240	DC	EH - 50.03K	50	40	OA - 8	-	-	1979
63	25000	100	10500	0.9	6550	DC	EH - 50.03K	50	40	OA - 8	-	-	1980
64	22000	93.8	10500	0.9	6240	DR	EH - 50.03K	50	40	OA - 10	-	-	1981
65	460	1000	6300	0.85	-	-	-	-	-	-	VF	1200	1980
66	66000	428.6	10500	0.9	690	DR	EH - 50.03F	50	40	OA - 4	VS	1700	1983
67	39100	115.4	10500	0.9	5600	DR	EH - 100.03K	100/50	40	OA - 10	-	-	1982
68	1120	200	6300	0.9	22	DR	SRD	-	63	SPRING	-	-	1981
69	82	428.6	400	0.87	-	-	SRD	-	63	SPRING	VF	600	1981
70	2200	214.3	6300	0.95	18	ST	EH - 50.03K	50	40	OA - 2.5	-	-	1986
71	705	1000	6300	0.85	-	-	-	-	-	-	VF	1200	1980
72	186000	500	15750	0.9	1438	DR	EH - 03F/RP	100	40	OA - 5	VS	2200	1986
73	14000	600	6300	0.9	62	DR	RMH 76.30	30	40	OA - 1.6	VS	1400	1987

**DATELE CENTRALEI
PLANT DATA**

**TURBINA HIDRAULICĂ
HYDRAULIC TURBINE**

Nr. crt. Code	Centrala Plant	Râul River	Țara/ Beneficiar Country / Owner	Anul proiect. Year of design	Nr. agreg Units	Tip turbină Turbine type	Tip generator Generator type	Tip constr. hidroagregat Unit constr. type	Diametrul rotor Runner Diameter [mm]	Putere Output [kW]	Cădere Head [m]	Turație Speed [rpm]
74	Scropoasa	Ialomița	HIDROELECTRICA-Br	1978	2	FVM	HVS	IM 8421	990	6250	229.5	1000
75	Munteni #	Iad	HIDROELECTRICA-C	1978	1	FOM	ME	IM 7311	720	797	43	600
76	Valea lui Iovan	Cerna	HIDROELECTRICA-Cs	1978	1	FOM	ME	IM 7311	390	200	110	1500
77	Dridu		ELECTRICA	1978	1	FOD	ME	IM 7311	720	95	11.7	238
78	Clopotiva	Râul Mare	HIDROELECTRICA-H	1979	2	KVB	HVS	IM 8421	2400	7300	22.9	230.8
79	Ipothești	Olt	HIDROELECTRICA-SL	1979	4	KOTR	GMOSC	IM 7301	4500	13970 12500	12.8 16.1	125
80	Drăgănești	Olt	HIDROELECTRICA-SL	1979	4	KOTR	GMOSC	IM 7301	4500	13970 12500	12.8 16.1	125
81	Frunzaru	Olt	HIDROELECTRICA-SL	1979	4	KOTR	GMOSC	IM 7301	4500	13970 12500	12.8 16.1	125
82	Rusănești	Olt	HIDROELECTRICA-SL	1979	4	KOTR	GMOSC	IM 7301	4500	13970 12500	12.8 16.1	125
83	Izbiceni	Olt	HIDROELECTRICA-SL	1979	4	KOTR	GMOSC	IM 7301	4500	13970 12500	12.8 16.1	125
84	Săsciori	Sebeș	HIDROELECTRICA-S	1979	2	FVM	HVS	IM 8421	1700	22000	94	375
85	Clăbucet	Dâmbovița	HIDROELECTRICA-A	1979	2	FVM	HVS	IM 8421	1800	33000	212	500
86	Aștileu II	Crișul Repede	HIDROELECTRICA-C	1979	1	KVB	HVS	IM 8421	1900	1044	10	200
87	Cinciș		RO-CSH	1979	1	EVS	HVS	IM 8421	900	855	23.1	750
88	Someșul Cald	Someș	HIDROELECTRICA-C	1979	1	KVB	HVS	IM 8421	3200	12950	20.7	166.7
89	Rogojești #	Siret	HIDROELECTRICA-B	1979	1	FOM	ME	IM 7311	1060	400	11.7	238
90	Rogojești #	Siret	HIDROELECTRICA-B	1979	2	EVB	HVS	IM 8421	1900	1490	10.7	250
91	Golești	Argeș	HIDROELECTRICA-A	1980	2	KVB	HVS	IM 8221	3200	4360	11	136.4
92	Călugărița		HIDROELECTRICA-A	1980	1	FOM	GA	IM 7311	640	665	60	750
93	Vlădești	Olănești	HIDROELECTRICA-RV	1980	1	FOM	ME	IM 7311	640	810	93	1000
94	Iron Gates II	Danube	HIDROELECTRICA-PF	1980	2 6	KOT * KOT @	HOSC * HOSC @	IM 7301 IM 7301	7500 7500	28000 28000	7.45 7.45	62.5 62.5
95	Lerești	Râul Târnăveni	HIDROELECTRICA-A	1980	1	FVM	HVS	IM 8421	1365	20000	153	600
96	Remeți	Drăgan	HIDROELECTRICA-C	1980	2	FVM	HVS	IM 8421	2400	54600	305	428.6
97	Galbeni	Siret	HIDROELECTRICA-B	1981	2	KVB	HVS	IM 8310	5400	16760	11.6	93.8
98	Răcăciuni	Siret	HIDROELECTRICA-B	1981	2	KVB	HVS	IM 8310	5400	26480	17.9	100
99	Berești	Siret	HIDROELECTRICA-B	1981	2	KVB	HVS	IM 8310	5400	26260	17.8	100
100	Herculane II #	Cerna	HIDROELECTRICA-Cs	1981	1	FVM	HVS	IM 8421	840	1780	39.4	600
101	Herculane I #	Cerna	HIDROELECTRICA-Cs	1981	1	FVM	HVS	IM 8421	1450	5330	39.4	333.3
102	Cornereva #	Belareca	HIDROELECTRICA-Cs	1981	1	FVM	HVS	IM 8421	1600	29000	238	600
103	Colibița	Colibița	HIDROELECTRICA-C	1981	1	FVM	HVS	IM 8421	1365	23500	175	600
104	Nehoiășu - Siriu	Bâsca - Buzău	HIDROELECTRICA-N	1981	2	FVM	HVS	IM 8421	1450	24000	158	600
105	Munteni #	Iad	HIDROELECTRICA-C	1981	2	FVM	HVS	IM 8421	1750	30000	140	500
106	Ostrovul -Mic	R. Mare	HIDROELECTRICA-H	1981	2	KVB * ^D	HVS	IM 8421	2750	8400	21	214.3
107	Ostrovul -Mare	R. Mare	HIDROELECTRICA-H	1981	2	KVB * ^D	HVS	IM 8421	2750	8400	21	214.3
108	Păclișa	R. Mare	HIDROELECTRICA-H	1981	2	KVB * ^D	HVS	IM 8421	2750	8400	21	214.3
109	Hațeg	R. Mare	HIDROELECTRICA-H	1981	2	KVB * ^D	HVS	IM 8421	2750	8400	21	214.3

**DATELE CENTRALEI
PLANT DATA**

**TURBINA HIDRAULICĂ
HYDRAULIC TURBINE**

Nr. crt. Code	Centrala Plant	Râul River	Țara/ Beneficiar Country / Owner	Anul proiect. Year of design	Nr. agreg. Units	Tip turbină Turbine type	Tip generator Generator type	Tip constr. hidroagregat Unit constr. type	Diametrul rotor Runner Diameter [mm]	Putere Output [kW]	Cădere Head [m]	Turație Speed [rpm]
110	Cârnești I	R. Mare	HIDROELECTRICA-H	1981	2	KVB * ^D	HVS	IM 8421	2750	8400	21	214.3
111	Totești I	R. Mare	HIDROELECTRICA-H	1981	2	KVB * ^D	HVS	IM 8421	2750	8400	21	214.3
112	Totești II	R. Mare	HIDROELECTRICA-H	1981	2	KVB * ^D	HVS	IM 8421	2750	8400	21	214.3
113	Cârnești II	R. Mare	HIDROELECTRICA-H	1981	2	KVB * ^D	HVS	IM 8421	3000	6170	15.52	166.7
114	Sântămăria Orlea	R. Mare	HIDROELECTRICA-H	1981	2	KVB * ^D	HVS	IM 8421	3000	6170	15.52	166.7
115	Voinești	Râul Târgului	HIDROELECTRICA-A	1981	1	FVM	HVS	IM 8421	1060	6700	75	600
116	Calderas		COLOMBIA	1981	2	PV *	HVS	IM 8421	-	-	-	750
117	Văcărești	Dâmbovița	HIDROELECTRICA-A	1982	2	KVB	HVS	IM 8421	1900	2570	14	300
118	Tismana aval	Tismana	HIDROELECTRICA-PF	1982	2	KVB	HVS	IM 8421	2200	2170	10.3	214.3
119	Kapulukaya	Kizilirmak	TURKEY	1982	3	FVM	HVS	IM 8221	2800	18200	36.05	166.7
120	Craiova		HIDROELECTRICA-	1982	1	EOS	GA	IM 7311	1500	446	7.5	300
121	Agigea	Danube Black Sea Channel	NUCLEARELECTRICA -Ct	1983	2	KVB	HVS	IM 8211	4500	5500	8.2	88.2
122	Gilău II	Someș	HIDROELECTRICA-C	1983	2	KVB * ^D	HVS	IM 8421	3000	5883	14.8	166.7
123	Florești I	Someș	HIDROELECTRICA-C	1983	2	KVB * ^D	HVS	IM 8421	3000	5883	14.8	166.7
124	Ruieni	Bistra	HIDROELECTRICA-Cs	1983	2	FVM	HVS	IM 8411	2600	78000	326	428.8
125	Lugașu	Crișul Repede	HIDROELECTRICA-C	1983	2	KVB	HVS	IM 8421	2600	9380	23.2	214.3
126	Tileagd	Crișul Repede	HIDROELECTRICA-C	1983	2	KVB	HVS	IM 8421	2600	9380	23.2	214.3
127	Gura Lotrului	Olt	HIDROELECTRICA-RV	1984	2	KVB	HVS	IM 8310	5800	15560	11.6	75
128	Sacadat	Crișul Repede	HIDROELECTRICA-C	1984	2	KVB * ^D	HVS	IM 8421	3000	6000	15	166.7
129	Fughiu	Crișul Repede	HIDROELECTRICA-C	1984	2	KVB * ^D	HVS	IM 8421	3000	6000	15	166.7
130	Crăinicele	Bârzava	RO-CSR	1984	2	PO	HOS	IM 7311	1200	10000	500	750
131	Cernavodă restitution	Danube	NUCLEARELECTRICA -Ct	1984	4	KVB	HVS	IM 8221	3800	3990	8.3	100
132	Brezova	Bârzava	RO-CSR	1984	2	FVM	HVS	IM 8411	820	1470	35.75	600
133	Râul Alb	Râul Alb	HIDROELECTRICA-Cs	1985	2	FVM	HVS	IM 8411	1350	21000	235	750
134	Turceni I #	Jiu	HIDROELECTRICA-TJ	1985	3	KVB	HVS	IM 8221	3200	3160	8.5	136.4
135	Turceni II #	Jiu	HIDROELECTRICA-TJ	1985	1	KVB	HVS	IM 8421	2200	1020	6.5	166.7
136	Mâneciu	Teleajen	HIDROELECTRICA-Br	1985	2	FVM	HVS	IM 8411	1160	6200	65	500
137	Voila	Olt	HIDROELECTRICA-SB	1985	2	KVB * ^D	HVS	IM 8211	4200	7600	8.78	107.1
138	Viștea	Olt	HIDROELECTRICA-SB	1985	2	KVB * ^D	HVS	IM 8211	4200	7630	8.9	107.1
139	Arpașu	Olt	HIDROELECTRICA-SB	1985	2	KVB * ^D	HVS	IM 8211	4200	7670	9.25	107.1
140	Scoreiu	Olt	HIDROELECTRICA-SB	1985	2	KVB * ^D	HVS	IM 8211	4200	7710	9.3	107.1
141	Avrig	Olt	HIDROELECTRICA-SB	1985	2	KVB * ^D	HVS	IM 8211	4200	7670	9.3	107.1
142	Boia II	Boia Mare	HIDROELECTRICA-RV	1985	1	KOS	GS	IM 7311	1100	535	9.5	428.6
143	Gogoșu	Danube	HIDROELECTRICA-PF	1985	2	KOT @	HOSC @	IM 7301	7500	28000	7.45	62.5
144	Blidari		ELECTRICA	1985	1	FOM	HOA	IM 7311	720	1370	142	1000
145	Cândești	Buzău	HIDROELECTRICA-N	1986	2	KVB * ^D	HVS	IM 8421	3000	5670	14.2	166.7
146	Vernești	Buzău	HIDROELECTRICA-N	1986	2	KVB * ^D	HVS	IM 8421	3000	6120	15.3	166.7
147	Simileasca	Buzău	HIDROELECTRICA-N	1986	2	KVB * ^D	HVS	IM 8421	3000	6030	15.16	166.7

GENERATOR

REGULATOR GOVERNOR

VANĂ INTRARE INLET VALVE

Nr. crt. Code	Putere Power [kVA]	Turație Speed [rpm]	Tensiune Voltage [V]	Factor de putere Power factor	GD ² WD ² [tm ²]	Sistem de excitație Excitation system	Tip regulator Governor type	Diametru sertar Governor valve dia. [mm]	Presiune ulei Oil pressure [bar]	Tip/volum acumulator Accumulator type /size [m ³]	Tip vană intrare Inlet valve type	Diam. Vană Valve dia [mm]	Anul PIF sau stadiu Comissioning year or stage
110	9330	214.3	6300	0.9	290	DR	REH 76M.50	50	25	OA - 3.2	-	-	1988
111	9000	214.3	6300	0.9	290	DR	REH 76M.50	50	25	OA - 3.2	-	-	1988
112	9000	214.3	6300	0.9	290	DR	REH 76M.50	50	25	OA - 3.2	-	-	1989
113	6440	166.7	6300	0.9	390	DR	REH 76M.50	50	25	OA - 2	-	-	1988
114	6440	166.7	6300	0.9	390	DR	REH 76M.50	50	25	OA - 2	-	-	1991
115	6250	600	6300	0.9	28	DR	RMH 76M.50	50	40	OA - 2	VFB	1400	1987
116	13230	750	13800	0.95	270	DR	-	-	-	-	-	-	1987
117	2740	300	6300	0.9	22	DR	RMH 76M.50	50	40	OA - 0.45	-	-	1988
118	2410	214.3	6300	0.9	68	ST	REH 76M.50	50	25	OA - 1	-	-	1985
119	22000	166.7	13800	0.8	2250	ST	EH - 50.04F	50	40	OA - 3.2	VFB ⁺ D	4050	1988
120	561	300	400	0.75	-	-	MA	-	-	-	VF	1600	1989
121	6200	88.2	6300	0.8	1300	ST	REH 76M.50	50	25	OA - 1	-	-	1987
122	6640	166.7	6300	0.9	390	DR	REH 76M.50	50	25	OA - 2	-	-	1986
123	6640	166.7	6300	0.9	390	DR	REH 76M.50	50	25	OA - 2	-	-	1987
124	85000	428.8	10500	0.9	1204	DR	REH 76M.50	50	40	OA - 4	VS	1800	1995
125	10100	214.3	6300	0.9	290	DR	REH 76M.50	50	40	OA - 2	-	-	1989
126	10100	214.3	6300	0.9	290	DR	REH 76M.50	50	40	OA - 2	-	-	1989
127	15100	75	10500	0.9	6150	DR	EH - 100.04K	100	40	OA - 10	-	-	1986
128	6640	166.7	6300	0.9	390	DR	REH 76M.50	50	25	OA - 2	-	-	1997
129	6640	166.7	6300	0.9	390	DR	REH 76M.50	50	25	OA - 2	-	-	2006
130	11200	750	6300	0.9	30	DR	RMH	30	40	OA - 1	VS	600	1997(No.1)
131	4250	100	6300	0.9	580	ST	EH -50.04K	50	40	OA - 2.5	-	-	1998
132	1630	600	6300	0.9	6	DR	SRD	-	64	ON - 0.1	VF	1400	stopped plant
133	23330	750	10500	0.9	65	DR	RMHB 85.51	50	40	OA - 1	VS	1200	in mounting
134	4450	136.4	6300	0.9	60	DR	REH 76M.50	50	25	OA - 2	-	-	1989
135	1050	166.7	6300	0.9	130	DR	REH 76M.50	50	25	OA - 1	-	-	1990
136	6600	500	6300	0.9	45	DR	RMHB 85.51	50	40	OA - 1	VFB	1300	1989
137	8000	107.1	6300	0.9	1094	DR	EH - 50.04K	50	40	OA - 6.3	-	-	1989
138	8000	107.1	6300	0.9	1094	DR	EH - 50.04K	50	40	OA - 6.3	-	-	1989
139	8000	107.1	6300	0.9	1094	DR	EH - 50.04K	50	40	OA - 6.3	-	-	1991
140	8000	107.1	6300	0.9	1094	DR	EH - 50.04K	50	40	OA - 6.3	-	-	1993
141	8000	107.1	6300	0.9	1094	DR	EH - 50.04K	50	40	OA - 6.3	-	-	1996
142	541	428.6	400	0.9	-	DR	RTM 81	20	40	ONM -0.025	VF	1100	1997
143	27550	62.5	6300	0.98	3400	ST	EH - 100.04K	100	40	OA - 16	-	-	1995
144	1480	1000	6300	0.89	-	-	MA	-	-	-	VF*	-	1988
145	6530	166.7	6300	0.9	390	DR	EH - 50.04K	50	25	OA - 2	-	-	1989
146	6530	166.7	6300	0.9	390	DR	EH - 50.04K	50	25	OA - 2	-	-	1989
147	6530	166.7	6300	0.9	390	DR	EH - 50.04K	50	25	OA - 2	-	-	1990

**DATELE CENTRALEI
PLANT DATA**
**TURBINA HIDRAULICĂ
HYDRAULIC TURBINE**

Nr. crt. Code	Centrala Plant	Râul River	Țara/ Beneficiar Country / Owner	Anul proiect. Year of design	Nr. agreg Units	Tip turbină Turbine type	Tip generator Generator type	Tip constr. hidroagregat Unit constr. type	Diametrul rotor Runner Diameter [mm]	Putere Output [kW]	Cădere Head [m]	Turație Speed [rpm]
148	Drăgănești	Olt	RO-IIFC	1986	2	KVB	HVS	IM 8421	2200	2020	10	214.3
149	Vălenii de Munte	Teleajen	HIDROELECTRICA-Br	1986	2	FVM	HVS	IM 8421	1160	6200	65	500
150	Izvoarele	Teleajen	HIDROELECTRICA-Br	1986	2	FVM	HVS	IM 8411	1060	8500	95	600
151	Kiliçkaya	Yesilirmak	TURKEY-DSI	1986	2	FVM	HVS	IM 8221	2850	62000	84	214.3
152	Nehoiășu Buzău	Bâasca Buzău	HIDROELECTRICA-N	1986	2	FVM	HVS	IM 8411	2200	85000	455	600
153	Vădeni	Jiu	HIDROELECTRICA-PF	1987	2	KVB * ^D	HVS	IM 8421	3000	6250	15	166.7
154	Târgu Jiu	Jiu	HIDROELECTRICA-PF	1987	2	KVB * ^D	HVS	IM 8421	3000	6550	15	166.7
155	Gezende	Ermenek	TURKEY-DSI	1987	3	FVM	HVS	IM 8221	2250	54200	154	333.3
156	Frunzaru	Olt	RO-IIFC	1987	2	KVB	HVS	IM 8421	1900	1750	10	214.3
157	Orta Sakarya	Yenice	TURKEY-DSI	1987	3	KVM	HVS	IM 8421	2600	12630	27.9	250
158	Djerdap II	Danube	YUGOSLAVIA	1988	2	KOT	HOSC	IM 7301	7500	28000	7.45	62.5
159	Mihăilești	Argeș	HIDROELECTRICA-A	1988	2	KVM	HVS	IM 8411	2200	5200	16.5	250
160	Dragoslavele	Dâmbovița	HIDROELECTRICA-A	1988	2	KVM	HVS	IM 8411	2200	5200	14.5	250
161	Călimănești	Siret	HIDROELECTRICA-B	1988	2	KVB	HVS	IM 8221	5800	22450	12.5	83.3
162	Boia III	Boia Mare	HIDROELECTRICA-RV	1988	1	KOS	GA	IM 7311	1100	588	10.5	428.6
163	Cireșu	Surduc	HIDROELECTRICA-Cs	1989	2	FVM	HVS	IM 8421	1510	13000	70	375
164	Pașcani #	Siret	HIDROELECTRICA-B	1990	2	KVB	HVS	IM 8421	3000	5200	12.1	166.7
165	Pașcani #	Siret	HIDROELECTRICA-B	1990	1	KVB	HVS	IM 8421	2200	2500	12.1	214.3
166	Rucăr	Dâmbovița	HIDROELECTRICA-A	1990	1	FVM	HVS	IM 8411	2290	36600	195	333
167	Cornetu	Olt	HIDROELECTRICA-RV	1991	2	KVB	HVS	IM 8320	5800	17500	12.04	83.33
168	Subcetate	Strei	HIDROELECTRICA-H	1992	2	KVB	HVS	IM 8421	3000	6000	15	166.7
169	Băcia	Strei	HIDROELECTRICA-H	1992	2	KVB	HVS	IM 8421	3000	6000	15	166.7
170	Răstolița	Mureș	HIDROELECTRICA-Q	1992	2	FVM	HVS	IM 8411	2030	25000	230	428.6
171	Diçle	Diçle N	TURKEY-DSI	1993	2	FVM * ^D	HVS * ^D	IM 8221	3150	55000	64	200
172	Camligoze	Yesilirmak	TURKEY-DSI	1994	2	KVM *	HVS	IM 8221	-	-	-	187.5
173	Suat Ugurlu	Kizilirmak	TURKEY-DSI	1995	1	KVM *	HVS	IM 8411	-	-	-	200
174	Movileni #	Siret	HIDROELECTRICA-B	1996	2	KVB	HVS	IM 8310	5400	17000	11.5	93.7
175	Movileni #	Siret	HIDROELECTRICA-B	1996	2	KVB	HVS	IM 8421	2200	2020	11.5	214.3
176	Polatiște	Polatiște	ROR.Ape.Jiu	1994	1	FOM	GA	IM 7311	390	250	104	1500
177	Poiana Teiului	Bistrița	HIDROELECTRICA-B	1999	2	KVB	HVS	IM 8421	2500	5600	18	230.8
178	Cine	Prov. Aydin	TURKEY	2003	2	FVM	HVS	IM 8421	1940	23600	146.3	428.6
179	Someshwara		INDIA	2003	3	KVM*	HVS	IM 8320	-	-	-	214.3
180	Ranganathaswamy		INDIA	2004	3	FOM*	HOS		-	-	-	600
181	Middle Kolab		INDIA	2004	2	FVM*	HVS		-	-	-	750
182	Ambuthirta		INDIA	2004	2	FVM*	HVS		-	-	-	428.6
183	Robesti	Olt	HIDROELECTRICA-SB	2004	2	KVB	HVS	IM 8320	5800	17500	12.04	83.3
184	Manyas	Prov. Balikesir	TURKEY - DSI	2005	3	FVM	HVS		1180	6830	53.5	500
185	Kilavuzlu	Prov. Maras	TURKEY - DSI	2005	3	FVM	HVS		1820	14100	47.4	333.3
186	Gugal		INDIA	2006	4	KOS*	HOS	MULTIPLIER* and FLY-WHEEL	-	-	-	-
187	Plopi	Strei	HIDROELECTRICA-H	2006	2	KVB	HVS	IM 8421	3000	6000	15	166.7

GENERATOR

REGULATOR
GOVERNORVANĂ INTRARE
INLET VALVE

Nr. crt. Code	Putere Power [kVA]	Turație Speed [rpm]	Tensiune Voltage [V]	Factor de putere Power factor	GD ² WD ² [tm ²]	Sistem de excitație Excitation system	Tip regulator Governor type	Diametru sertar Governor valve dia. [mm]	Presiune ulei Oil pressure [bar]	Tip/volum acumulator Accumulator type /size [m ³]	Tip vană intrare Inlet valve type	Diam. Vană Valve dia [mm]	Anul PIF sau stadiu Commissioning year or stage
148	2200	214.3	6300	0.9	68	ST	REH 85.52	50	40	OA - 0.45	-	-	stopped plant
149	6600	500	6300	0.9	45	DR	RMHB 85.51	50	40	OA - 1	VFB	1400	2006
150	9100	600	6300	0.9	45	DR	RMHB 85.51	50	40	OA - 1	VFB	1400	1997
151	67000	214.3	13800	0.9	4217	ST	REH	100	29	OA - 4	VF ⁺ D	3400	1990
152	104000	600	10500	0.9	540	ST	REH 85/RP	100	25	OA - 2	VS	1500	stopped plant
153	6670	166.7	6300	0.9	390	DR	EH - 50.04K	50	25	OA - 2	-	-	1994
154	7000	166.7	6300	0.9	390	DR	EH - 50.04K	50	25	OA - 2	-	-	1997
155	62500	333.3	13800	0.85	1254	ST	REH 85.51	50	64	OA - 2	VFB	2600	1994
156	2200	214.3	6300	0.9	68	ST	REH 85.52	50	40	OA - 0.45	-	-	stopped plant
157	14500	250	13800	0.85	455	ST	REH 85.52	50	40	OA - 2	-	-	2001-2003
158	27550	62.5	6300	0.98	3400	ST	EH - 100.04K	100	40	OA - 16	-	-	1998-2000
159	5600	250	6300	0.9	119	DR	REH 85.52	50	40	OA - 2	-	-	1996
160	5600	250	6300	0.9	119	DR	REH 85.52	50	40	OA - 2	-	-	2001-2003
161	24200	83.3	10500	0.9	6200	DR	EH - 100.04K	100	40	OA - 10	-	-	1994
162	668	428.6	400	0.84	-	-	MA	-	-	-	VF	1100	1996
163	18300	375	10500	0.9	210	DR	REH 85.51	50	40	OA - 1	VF	2000	stopped plant
164	5580	166.7	6300	0.9	390	DR	EH - 50.04K	50	25	OA - 1	-	-	in mounting
165	2650	214.3	6300	0.9	68	DR	EH - 50.04K	50	25	OA - 2	-	-	in mounting
166	40700	333	10500	0.9	800	DR	REH 85.51	50	40	OA - 2.5	VS	2000	2004
167	24200	83.33	10500	0.9	6200	DR	*	100	40	OA - 10	-	-	2002-2003
168	6640	166.7	6300	0.9	390	DR	REH Digital	50	25	OA - 2	-	-	2004
169	6640	166.7	6300	0.9	390	DR	REH 76M.50	50	25	OA - 2	-	-	stopped plant
170	31640	428.6	10500	0.9	2300	DR	REH 85.51	50	40	OA - 1.6	VS	1400	stopped plant
171	65000	200	10500	0.85	6700	ST	REH 85.51	50	60	OA - 6.3	VFB ⁺ D	4200	1999-2001
172	18550	187.5	11000	0.89	1646	ST	-	-	-	-	-	-	2000
173	25500	200	11500	0.9	1862	ST	-	-	-	-	VFB ⁺ D	4600	2000
174	18500	93.7	10500	0.9	5700	DR	REH Digital	50	40	OA - 2	-	-	in mounting
175	2650	214.3	6300	0.9	68	DR	REH Digital	50	40	OA - 8	-	-	in mounting
176	315	1500	400	-	2.5	-	HA	-	100	-	VF	400	1997
177	7000	230.8	6300	0.9	200	DR	REH Digital	50	25	OA - 2	-	-	2003-2004
178	25700	428.6	11000	0.9	260	ST	REH Digital	63	50				manufacture/ delivery
179	9420	214.3	11000	0.85	630	DR	*	*		*	*	-	2004
180	11650	600	11000	0.85		ST	*	*		*	*	-	in mounting
181	14710	750	11000	0.85		ST	*	*		*	*	-	delivered
182	12940	428.6	11000	0.85		DR	*	*		*	*	-	delivered
183	24200	83.3	10500	0.9	6200	DR	*	*	40	OA - 10	-	-	in mounting
184	7500	500	6300	0.9	46.6	ST	RTD 01-EP16	16	60	OA - 0.6	VFB	1500	in manuf.
185	15900	333.3	11000	0.9	253	ST	RTD 01-EP25	25	60	OA - 0.6	VFB	2400	in manuf.
186	2941	750	11000	0.85	4.6+6	DR	*	*		*	*		in manuf.
187	6640	166.7	6300	0.9	390	DR	REH Digital	50	25	OA - 2	-	-	in manuf.