

<u>YEAR</u>	<u>CLIENT</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>	<u>CAPACITY</u>	<u>LICENSOR</u>	<u>SCOPE</u>
2019	NITRICOMAX (MAXAM)	Tarragona (Spain)	Ammonia Oxidation Reactor (Nitric Acid Plant)	130 TPD	ESPINDESA	EPC
2016	Petrovietnam Ca Mau Fertilizer Co.	Ca Mau (Vietnam)	NPK Fertilizer Plant	900 TPD	ESPINDESA	BE, FEED
2014	YARA	Porsgrunn (Norway)	Nitric Acid Plant	1,050 TPD	ESPINDESA	EPC
2013	Hindustan Dorr-Oliver (HDO) /GSFC	Gujarat (India)	DAP/NPK Plant	1,650 TPD DAP 1,870 TPD NPK	ESPINDESA	BE
2012	Burrup Nitrates (YARA-ORICA-APACHE)	Burrup ( Australia)	Nitric Acid Ammonium Nitrate Solution Low Density Ammonium Nitrate Off sites	760 TPD 965 TPD 915 TPD	ESPINDESA ESPINDESA YARA	EPC
2011	Incitec Pivot/ Dyno Nobel	Newcastle (Australia)	Nitric Acid Ammonium Nitrate Solution Low Density Ammonium Nitrate Ammonia Tank Offsites	760 TPD 1,000 TPD 1,000 TPD 45,000 m <sup>3</sup>	ESPINDESA ESPINDESA ESPINDESA	BE, FEED
2011	Nitratos del Peru	Pisco (Peru)	Ammonia Nitric Acid Ammonium Nitrate Solution Low Density Ammonium Nitrate	2,060 TPD 925 TPD 1,060 TPD 1,060 TPD	HALDOR TOPSOE ESPINDESA ESPINDESA ESPINDESA	BE, FEED

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2011	EUROCHEM	Novomoskovsk (Russia)	Ammonium Nitrate Solution	1,800 TPD	ESPINDESA	BE
			Low Density Ammonium Nitrate	900 TPD	ESPINDESA	
			High Density Ammonium Nitrate	900 TPD	ESPINDESA	
2011	Jianfeng Chemical	Chongqing (China)	Nitric Acid	902 TPD	ESPINDESA	BE,SU
2010	CUVENPEQ, SA	Cienfuegos (Cuba)	Ammonia	1,850 TPD	HALDOR TOPSOE	PMT
			Urea	2,200 TPD	TOYO	
2009	EHC	Ain Sokhna (Egypt)	Nitric Acid Plant	925 TPD	ESPINDESA	FEED
			Ammonium Nitrate Solution	1,060 TPD	ESPINDESA	
			Low Density Ammonium Nitrate	1,060 TPD	ESPINDESA	
2008	SADARA (DOW CHEMICAL/SAUDI ARAMCO)	Ras Tanura (Saudi Arabia)	Nitric Acid Plant (65% Conc.)	1,200 TPD	ESPINDESA	BE
2008	YARA	Tertre (Belgium)	Revamping Nitric Acid	1,100 TPD	ESPINDESA	BE
2008	FERTIAL	Annaba (Algeria)	Nitric Acid Optimization	2 x 400 TPD	ESPINDESA	E
2008	JPMC	Aqaba (Jordan)	DAP Plant	2 x 1,600 TPD	ESPINDESA	BE, EM, SU
2008	SASOL	Secunda (South Africa)	NPK/MAP Plant	NPK 1,200 TPD MAP 800 TPD	ESPINDESA	BE
2008	YARA	Porsgrunn (Norway)	Nitric Acid Plant Revamping	1,000 TPD	ESPINDESA	BE

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2007	MAXAM	Tashkent (Uzbekistan)	Low Density Ammonium Nitrate	200 TPD	ESPINDESA	BE
2006	ATLANTIC COPPER	Spain	SO <sub>2</sub> Absorption	550,000 Nm <sup>3</sup> /h	MECS	BE
2006	BERGERAC, N.C.	Bergerac (France)	NO <sub>x</sub> Absorption with H <sub>2</sub> O <sub>2</sub>	9,500 Nm <sup>3</sup> /h	ESPINDESA/UEE	E, P, EM, CS, SU
2006	ENAEX	Mejillones (Chile)	Nitric Acid Plant Ammonium Nitrate Solution Low Density Ammonium Nitrate	925 TPD 1,060 TPD 1,060 TPD	ESPINDESA ESPINDESA ESPINDESA	E, P, EM, CS, SU
2005	ARAMCO/ SUMITOMO	Rabigh (Saudi Arabia)	Sulphuric Acid Plant for the C <sub>4</sub> Alkylation Unit	160 TPD	MECS	FEED+OBE/ EPC (1)
2005	FIASA	Villa Mercedes (Argentina)	Weak and Concentrated Nitric Acid Plant UAN & CaNO <sub>3</sub> Solution	30 TPD 50 TPD	ESPINDESA ESPINDESA	E, P, EM, CS, SU
2004	CAVIM	Morón (Venezuela)	Concentrated Nitric Acid Plant Revamping and Expansion	49 TPD	ESPINDESA	EPC
2003	BASF	Caojing (P. R. China)	Nitric Acid Plant	886 TPD	ESPINDESA	E, P, EM, SU
2002	BASF COATINGS	Guadalajara (Spain)	OEM Waterborne Plant		BASF COATINGS	E, P
2001	AQUACHEMIA	Zilina (Slovak Republic)	Ammonia Oxidation Unit Reactor Revamping	180 TPD	ESPINDESA	E
2001	CUFL	Chittagong (Bangladesh)	DAP Plant	800 TPD	ESPINDESA	BE, EM, SU

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2001	BASF	Ludwigshafen (Germany)	NO <sub>x</sub> Absorption System	50 TPD	ESPINDESA	EPC
2000	DATIAN FERTILIZER	Jingzhou (P. R. China)	NPK Fertilizers Plant	600 TPD	ESPINDESA	EPC
2000	SHANDONG LIAOCHENG Co	Luxi (P.R. China)	NPK Fertilizers Plant Revamping	1,000 TPD	ESPINDESA	E, SU
2000	UBE-PROQUIMED	Castellón (Spain)	NO <sub>x</sub> Abatement Unit	22,000 Nm <sup>3</sup> /h	ESPINDESA	EPC
2000	CLARIANT	Lamotte (France)	NO <sub>x</sub> Absorption System	10 TPD	ESPINDESA	BE
2000	REPSOL-YPF	Tarragona (Spain)	SO <sub>2</sub> Abatement System	56,000 Nm <sup>3</sup> /h	MECS/ESPINDESA	E, P, CS
2000	BASF	Ludwigshafen (Germany)	NO <sub>x</sub> Absorption System, Nitric Acid Plant	50 TPD	ESPINDESA	BE
1999	SEFANITRO	Baracaldo (Spain)	NO <sub>x</sub> Abatement Unit	300 TPD	ESPINDESA	EPC
1998	SEFANITRO	Baracaldo (Spain)	NO <sub>x</sub> Abatement Unit	125 TPD	ESPINDESA	EPC
1997	GUIXI FERTILIZERS	Guixi (P.R. China)	DAP Plant Expansion	1,000 TPD	ESPINDESA	E, P, EM
1996	HPD	Mortara (Italy)	NO <sub>x</sub> Abatement Unit	5,250 Nm <sup>3</sup> /h	ESPINDESA	E, EM
1996	FERTIBERIA	Puertollano (Spain)	NO <sub>x</sub> Abatement Unit	125 TPD	ESPINDESA	TK
1995	CNTIC	Luzhai (P.R. China)	DAP Plant	800 TPD	ESPINDESA	E, P, EM, SU

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1995	SINOPEC	Shijiazhuang (P.R. China)	SO <sub>2</sub> Abatement System	30,000 m <sup>3</sup> /h	MONSANTO	E, P, EM, SU
1994	HPD	Metz (France)	NO <sub>x</sub> Abatement Unit	2,300 m <sup>3</sup> /d	ESPINDESA	EM
1994	THAI PETROCHEMICAL	Bangkok (Thailand)	AN Prilling Gas Washing	200 TPD	ESPINDESA	E
1993	SINOPEC	Shijiazhuang, (P.R. China)	Ammonia Oxidation Unit	110 TPD	ESPINDESA	E, P, EM, SU
1991	CAVIM	Morón (Venezuela)	NO <sub>x</sub> Abatement Unit	50 TPD	ESPINDESA	E, P, CS, EM, SU
1991	AGROLINZ	Linz (Austria)	Air Recycle System in an Ammonium Nitrate Prill Tower	100 TPD	ESPINDESA	E, SU
1991	FESA-ENFERSA	Sevilla (Spain)	NO <sub>x</sub> Abatement Unit	320 TPD	ESPINDESA	EM
1990	VBC	Srikakulam (India)	NO <sub>x</sub> Abatement Unit	80 TPD	ESPINDESA	EM
1990	UNOCAL	Sacramento (USA)	AN Prilling Gas Washing	250 TPD	ESPINDESA	E
1990	ENFERSA	Puertollano (Spain)	Urea Plant Revamping	-	-	E, P, CS
1990	ENSAB	Fontana Liri (Italy)	Spheroid Powder Plant	350 TPY	ENSAB	E, P, CS
1989	MINISTRY OF INDUSTRY	Al-Kaim (Iraq)	Fertilizer Granulation Plants (NPK, DAP, MAP, TSP). Project cancelled due to UNO embargo against Iraq	3 x 1,680 TPD 1 x 840 TPD	ESPINDESA/ N.HYDRO	E, P, CS, EM, SU
1989	ENFERSA	Avilés (Spain)	NO <sub>x</sub> Abatement Unit	2 x 365 TPD	ESPINDESA	E, EM

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1988	ENFERSA	Avilés (Spain)	Nitric Acid Plant Revamping	2 x 390 TPD	UHDE	E, P
1987	ENFERSA	Cartagena (Spain)	Ammonia Plant Revamping	900 TPD	UHDE	E, P, CS
1987	ENFERSA	Cartagena (Spain)	Ammonia Synthesis Loop	900 TPD	UHDE	E
1987	ENFERSA	Puertollano (Spain)	Ammonia Plant Revamping	640 TPD	UHDE	E, P
1986	ENFERSA	Sagunto (Spain)	Ammonium Nitrate Plant Ammonia Tank	1,150 TPD 22,000 m <sup>3</sup>	UHDE	E, P, CS
1986	FERTIBERIA	Huelva (Spain)	Urea Revamping (ACES)	750 TPD	TOYO	E, P
1986	TUGSAS	Kütahya (Turkey)	Concentrated Nitric Acid	50 TPD	HERCULES	EPC
1986	FERTIBERIA	Huelva (Spain)	Ammonia Revamping	1,000 TPD	KELLOGG/ TOPSOE	E, P, CS
1986	NITRASTUR	La Felguera (Spain)	Ammonium Nitrate Solution Low Density Ammonium Nitrate (LDAN) / High Density Ammonium Nitrate (HDAN)	100 TPD 100 TPD	ESPINDESA ESPINDESA/KT	EM
1985	ENFERSA	Sagunto (Spain)	Nitric Acid Plant	759 TPD	ESPINDESA	E
1985	RASHTRYYA	Trombay (India)	NO <sub>x</sub> Abatement Unit	2 x 160 TPD	ESPINDESA	EM
1984	TOROS GUBRE	Ceyhan (Turkey)	DAP/NP Unit NP Unit	600 TPD 1,000 TPD	ESPINDESA	EPC
1984	NICAS	Valladolid (Spain)	Nitric Acid Plants Optimisation	180/220 TPD	ESPINDESA	E

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1984	INSTITUTO DE INVESTIGACIONES TECNOLÓGICAS	Bogotá (Colombia)	Feasibility Study of Nitric Acid and Ammonia Plants	-	-	FS
1983	ENGRAIS DE GABES	Gabes (Tunisia)	Ammonium Nitrate Solution	720 TPD	ESPINDESA	E
1982	CAVIM	Morón (Venezuela)	Nitric Acid Plant Concentrated Nitric Acid Plant	45 TPD 36 TPD	ESPINDESA HERCULES	EPC
1982	EL-NASR CO.	Helwan (Egypt)	Nitric Acid Plant Concentrated Nitric Acid Plant	50 TPD 50 TPD	ESPINDESA HERCULES	EPC
1982	FOCOEX	Jorf Lasfar (Morocco)	Sulphuric Acid Plant	6 x 2,400 TPD	mitsui	CS
1982	MINAS DE ALMAGRERA	Calañas (Spain)	Sulphuric Acid Plant	900 TPD	BAYER/LURGI	E, P, CS
1981	ASUR	Cartagena (Spain)	Ammonium Nitrate Solution	780 TPD	ESPINDESA	E
1980	SOTAVE	Belem (Brazil)	DAP/MAP/NPK Ammonia storage	1,000 TPD 2 x 12,000 m <sup>3</sup>	ESPINDESA	E, CS, SU
1980	SOTAVE	Belem (Brazil)	Single Superphosphate Plant Triple Superphosphate Plant	1,000 TPD	ESPINDESA	E, CS, SU
1980	CROS	Málaga (Spain)	Nitric Acid Plant Optimisation	300 TPD	ESPINDESA	E
1979	ENFERSA	Puertollano (Spain)	NOx Abatement Unit Nitric Acid Plant Optimisation	325 TPD 325 TPD	ESPINDESA ESPINDESA	EM EM

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1978	ENFERSA	Puertollano (Spain)	Ammonium Calcium Nitrate Plant	750 TPD	KALTEMBACH	E, P
1978	H.I.P.	Pancevo (Yugoslavia)	Ammonia Plant Ammonia Tank	938 TPD 22,000 m <sup>3</sup>	ICI-KELLOGG	EPC
1978	D.G.F.M.	Córdoba (Argentina)	Concentrated Nitric Acid Plant	140 TPD	ESPINDESA	EPC
1978	ERCROS	Burgos (Spain)	Nitric Acid Absorption	20 TPD	ESPINDESA	E
1978	QUIMIGAL, EP	Barreiro (Portugal)	NOx Gases Absorption Plant Milk of Lime Ammonia Oxidation	502 TPD 288 TPD	ESPINDESA ESPINDESA	EPC EPC EPC
1977	ENFERSA	Avilés (Spain)	Nitrogen Solution Plant	1,060 TPD	-	E, P, CS
1977	SOTAVE	Anápolis (Brazil)	Single Superphosphate Plant	150 TPD	ESPINDESA	E, P, CS, SU
1976	NITROVEN	El Tablazo (Venezuela)	Steam Generation. Optimisation of Urea Plants & Compressors Area			E, P, CS
1975	QUIMIGAL	Barreiro (Portugal)	Dicalcium Phosphate Plant	50,000 TPY	ERT	E
1974	SEFANITRO	Bilbao (Spain)	Ammonia Plant. Project cancelled after purchasing of major equipment	938 TPD	ICI-KELLOGG	EPC
1973	INSTITUTO VENEZOLANO DE PETROQUÍMICA	Morón (Venezuela)	Phosphate Rock Reduction Plant	2,275 TPD	DORR-OLIVER	E, P
1973	ENFERSA	Puertollano (Spain)	Urea Plant Revamping	300 TPD	SNAMPROGETTI	E, P, SC



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1973	ERCROS	Sevilla (Spain)	Fertilizers Cooling Unit	600 TPD	ESPINDESA	EM
1973	ASUR	Cartagena (Spain)	Nitric Acid Plant	270 TPD	ESPINDESA	EPC
1972	FESA	Huelva (Spain)	Diammonium Phosphate Plant	550 TPD	ESPINDESA	E, P
1972	SEFANITRO	Bilbao (Spain)	Calcium Ammonium Sulphonitrate; Rock handling & grinding Ammonia storage	500 TPD - 2,200 m <sup>3</sup>	ESPINDESA	E, P, CS
1972	ENFERSA	Escombreras (Spain)	Urea Plant	2 x 225 TPD	STAMICARBON	E,P
1972	FERTIBERIA	Huelva (Spain)	Ammonia Plant	900 TPD	ICI-KELLOGG	EPC
1972	SOCIEDAD IBERICA DEL NITROGENO	La Felguera (Spain)	Nitric Acid Absorption	75 TPD	ESPINDESA	E
1972	ERCROS	Galdácano (Spain)	Nitric Acid Absorption	20 TPD	ESPINDESA	E
1971	FERTIBERIA	Castellón (Spain)	Nitric Acid Ammonia storage & ammonia loading and unloading facilities Off-sites	250 TPD 8,800 m <sup>3</sup>	ESPINDESA	EPC
1971	FERTIBERIA	Cartagena (Spain)	Sulphuric Acid	650 TPD	RASCHKA/ PETERSEN	EPC
1971	ERT	Tarragona (Spain)	98,5% Nitric Acid	120 TPD	BAMAG	EPC
1970	FOSFORICO ESPAÑOL, S.A.	Huelva (Spain)	Phosphoric Acid Plant	1,500 TPD P <sub>2</sub> O <sub>5</sub>	PRAYON	E, P

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1970	INSTITUTO VENEZOLANO DE PETROQUÍMICA	Morón (Venezuela)	Diammonium Phosphate Plant	900 TPD	-	FS, E, P
1970	INSTITUTO VENEZOLANO DE PETROQUÍMICA	Morón (Venezuela)	NPK Fertilizers Plant	985 TPD	-	FS, E, P
1970	INSTITUTO VENEZOLANO DE PETROQUÍMICA	Morón (Venezuela)	Triple Superphosphate Plant	1,500 TPD	-	FS, E, P
1970	INSTITUTO VENEZOLANO DE PETROQUÍMICA	Morón (Venezuela)	Phosphoric Acid Plant	300 TPD	-	FS, E, P
1969	FERTIBERIA	Puertollano (Spain)	Nitric Acid Plant	300 TPD	BAMAG	E, P, CS
1969	FERTIBERIA	Puertollano (Spain)	Calcium Ammonium Nitrate Plant	530 TPD	KALTEMBACH	E, P, CS
1969	NITRATOS DE CASTILLA	Valladolid (Spain)	NPK Fertilisers Plant	300 TPD	BAMAG	E, P, CS
1969	FERTIBERIA	Puertollano (Spain)	Urea Plant	300 TPD	SNAMPROGETTI	EPC
1967	ASUR	Cartagena (Spain)	Nitric Acid NPK, Ammonium Sulphonitrate Off-sites	270 TPD 2 x 500 TPD	LUMMUS	E, P, CS
1967	FOSFORICO ESPAÑOL, S.A.	Huelva (Spain)	Phosphate rock storage and handling Ammonia Tank	---- 2,200 m <sup>3</sup>		E, P

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1963	MINAS DE RIO TINTO	Huelva (Spain)	Sulphuric Acid	700 TPD	CHEMIEBAU	E, P
1961	ERCROS	Sevilla (Spain)	Ammonia Nitric Acid NPK Off-sites	140 TPD 210 TPD 400 TPD	SHELL/LUMMUS	E, P

### Keys:

BE: Basic Engineering

CS: Construction Supervision

E: Detailed Design and Engineering

EM: Equipment and Material Supplies

EPC: Lump Sum Turn-key for Engineering, Procurement and Construction

FEED: Front End Engineering Design

FS: Feasibility Study

OBE: Open Book Estimate

P: Procurement

PMT: Project Management Team

SU: Start-up

(1) Project executed in two phases