PERIODIC SYSTEM OF DUTCH ELECTRICITY PYLONS

The Periodic System of Dutch Electricity Pylons shows the pylon designs present in the Netherlands.

Pylons are classified by circuit configuration, conform the HSN-HNM Pylon Classification System 2013. Most pylon types are today part of the Dutch public owned power grid, but some are only seen in connections that remained private today. All main groups and types are represented, but in some cases there are numerous sub-sub-types present in the field. To avoid the System going rogue, for this types only the version to be considered as the standard type is shown. For every element, at least two individuals need to be permanent present today, or at least more than a single one must have have been present in the past. The System shows the grid prescense situation valid for January 01, 2016.

Trivial Dutch name — Koppelnet westring — grid occurance (red of black line)
35 — S+0 unit mass (metric ton)
S-2 42.5 S+121 — stable S+0 isotope (height in meters) *(S+X isotope range upper and lower value)*
Element — 2 — valency (nominal circuit number)
year of first report — 1969 SEP — 380 — electric potential (kilovolt AC, nominal)
discoverer

Occurs natural in the Dutch national grid
Only observed in private connections

Black numbers: confirmed or highly accurate values
Red numbers: indicative estimated values
(Open fields: no data or estimate available)

Pylon group classification key

- ***Hamerkoppen*** — *Horizontal configured single level pylons*
- ***Tweevlaksmasten*** — *Horizontal configured double level pylons*
- ***Drievlaksmasten*** — *Vertical configured pylons*
- ***Dennenboommasten*** — *Upward narrowing vertical configured pylons*
- ***Tonmasten*** — *Barrel pylons*
- ***Combinatiemast-reeks*** — *Hybrids series*
- ***Onvolledig uitgenutte reeks*** — *Sub-nominal exploited pylon series*
- ***Donaumasten*** — *Donau pylons*
- ***Driehoeksmasten*** — *Asymmetrical single circuit pylons*
- ***Deltamasten- of katten*** — *Delta- and chat pylons*
- ***Portaalmasten- of jukken*** — *Portal- or multi legged pylons*
- ***Bipole-masten*** — *Bipole-pylons*
- ***Anders / niet classificeerbaar*** — *Other- or non-classifyable whatever types*

Classification conform HSN-HNM Pylon Classification Model (may 15, 2013).
http://www.hoogspanningsnet.com/mastsoortenclassificatie/mastclassificatiemodel/

Voltage icon key

150 — ***Nominal design voltage*** — *Conform grid map standard*

380/110 110/220 — ***Nominal and operational voltage for hybrids*** — *Slope line declining right: two voltages present. Slope line declining left: currently subnominal operation voltage*

Pylon	Year	Place	Code	Mass	Isotope	Valency	Voltage
EGD-hamerkop I	1933	EGD	110	5	S-6 20 S+18	2	
PEB-hamerkop	1935	PEB	110	5	20 S+15	2	
Mannesmann	1939	PEN	50	1	15	1	
EGD-hamerkop II	1959	EGD	110	5	S-6 20 S+12	2	
PEB-Sneekportaal	1973	PEB	110		15	4	
IJsselmij-hamerkop I	1940	IJsselmij	110	9	25 S+18	2	
Jukkenlijn Harculo	1954	IJsselmij	110		25 S+4	8	
Driehoeksmast Losser	1986	IJsselmij	110		18 S+3	1	
Afgeleid koppelnet 110	1970	PEB	110	9	S+0 28 S+12	2	
Hoogeveen-Veenoord	1950	IJsselmij	110	8	S+0 28 S+6	2	
EZH-oerdonau	1940	EZH	150	9	S-6 33 S+60	2	
PGEM oerdonauvijftigje	1950	PGEM	50	2	16 S+10	2	
Lunterense valleivijftigje	1950	PGEM	50	2	16	2	
Nijkerk/Culemborgvijftigje	1966	PGEM	50	3	30 S+4	2	
Drechtstedenvijftigje	1958	EZH	50	4	S-6 30 S+12	2	
ET-donau Goesvijftigje	1950	PNEM/PZEM	50	7	S-4 20 S+6	2	
Cambronvijftigje	1956	PZEM	50	7	S-6 22 S+10	2	
IJsselmij-hamerkop II	1940	IJsselmij	110	8	S+0 25 S+18	2	
Waalportalen	1947	PGEM	150	45	73	2	
Driehoeksmast BUGG	2002		150		32	1	
Afgeleid koppelnet 150	1971	PEN/PUEM	150	13	30 S+10	2	
IJsselmij-donau klassiek	1948	IJsselmij	110	13	S-6 32 S+20	2	
IJsselmij Duits-type donau	1958	IJsselmij	110		S-4 31 S+30	2	
Maasbracht-Lutterade	1932	PLEM	150	6	S+0 30 S+12	2	
PGEM/PLEM donau	1954	PGEM/PLEM	150		32 S+18	2	
Oss-Udendonau	1972	PNEM	150		33	2	
Schermerdonau	1965	PEN	150		30 S+18	2	
PEB-donau I	1950	PEB	110	7	28 S+20	2	
PNEM-PZEMdonau	1964	PNEM/PZEM	150	10	30 S+60	2	
EGD-hamerkop III	1969	EGD	110		S-6 30 S+10	2	
Muidenportalen	1970	SEP	380	25	25	2	
'Combinatiemast' series							
Koppelnet 220-ring	1972	SEP	220	25	S+0 36 S+50	2	
Waldweireconstructie	2007	TenneT	220		53	2	
Geertruidenbergdonau	1965	PNEM	150		32	2	
Maasstreekdonau	1946	PLEM	150		32	2	
Peeldonau	1954	PLEM	150		32	2	
Bredadonau	1973	PNEM	150		36	2	
Delftlanddonau	1946	EZH	150		33 S+60	2	
ET Zuid-Bevelanddonau	1966	PZEM	150	10	32 S+10	2	
Buggenumdonau	1974	PLEM	150	15	36 S+70	2	
Maaswaaltje	1979	PNEM/PGEM	150		25 S+18	2	
Kleerkastenlijn	1967	SEP	380		60 S+0 50 S+18	3	
'Onvolledig uitgenut' series							
Koppelnet Westring	1969	SEP	380	35	S-2 42,5 S+119	2	
Koppelnet Oostring	1988	SEP	380	35	S-6 44 S+60	2	
Koppelnet Westland I	1975	SEP	380	40	44 S+40	2	
Koppelnet Westland II	1979	SEP	380	35	43 S+80	2	
Koppelnet Zuidwest	1979	SEP	380	40	44 S+60	2	
Meeden-Dieletype	1987	SEP	380	35	44 S+6	2	
Klassieke ET-donau 150	1946	PEN/PUEM	150	10	S-6 32 S+10	2	
Eindhovendonau	1974	PNEM	150		33 S+4	2	
Teugedonau	1974	PGEM	150	15	30 S+4	2	
Frietenlijn	1975	PZEM	150	2	S+ 25	1	
PEB buis-tonmast	1973	PEB	150	4	27	2	
Eindhoventon	1967	PNEM	150	12	35	2	
PNEM Brabo-oerton	1933	PNEM	150	14	30 S+6	2	
PGEM-ton generatie I	1953	PGEM	150	14	S+0 33 S+40	2	
Weteringkadetweevlak	2009	TenneT	110	30	34	4	
Veenoords bokje	1954	EGD	110	6	S-6 22 S+12	1	
PGEM-schaarmast	1929	PGEM	50	3	S+0 20 S+40	2	
PNEM-jarenzeventigton	1969	PNEM	150	15	38 S+12	2	
Limburgse heuvellandton	1963	PLEM	150	15	38	2	
PGEM-ton generatie II	1959	PGEM	150	14	S+0 33 S+40	2	
Zeelandtweevlak	1971	PZEM	150	30	35	4	
Invoedingsdelta	1981	PGEM/PNEM	150	15	20	3	
PZEM Borssele-drievlak	1975	PZEM	150	17	S+0 30 S+6	2	
IJsselmij-stadsdennetje	1970	IJsselmij	110	6	S+0 20 S+2	2	
Oostelijke mijnstreekton	1955	PLEM	150	15	35	2	
PGEM-ton generatie III	1974	PGEM	150	18	S+0 36 S+18	2	
Atweevlaksmast	2012	Stedin	150	35	38 S+4	4	
Flevodelta afgeleid 110	1972	EGD/PGEM	110	25	30 S+3	3	
PEB buis-drievlak	1980	PEB	110	43	34 S+4	2	
IJsselmij 220-den	1966	IJsselmij	220	20	S+0 40 S+15	2	
IJsselmij Weidewegden	1957	IJsselmij	110	20	S-6 35 S+10	2	
PGEM-ton-buis gen. IV	1979	PGEM	150	7	28 S+15	2	
Alblasser tweevlaksmast	1975	EZH	150		40 S+6	4	
Westelijke driecircuitdelta	1966		150	30	S-10 40 S+80	3	
Eindhovendrievlak	1979	PNEM	150	20	35	2	
EGD 220 Drievlak	1966	EGD	220	20	S+0 40 S+12	2	
EGD 110 Drenthe-den	1966	EGD	110	15	S+0 35 S+10	2	
PGEM Bemmeldennetje	1955	PGEM	50	8	S+0 28 S+4	2	
EGD-tweevlaksmast	1972	EGD	220	30	S+0 40 S+18	4	
PGEM-Flevodelta	1967	PGEM	150	35	S+0 40 S+40	3	
Moerdijk-drievlak	1996		150	20	S+0 35	2	
IJsselmij buis-drievlak	1974	IJsselmij	110	3	S+0 24 S+10	2	
Chemelot-drievlak			150	15	32	2	
PGEM-drievlaksmast	1943	PGEM	150	13	S+0 35 S+35	2	
Wintrack	2011	TenneT	380	50	S+0 55 S+6	2	
Concordemast	2013	TenneT	380	100	50	2	

True hybrids | Permanently operated as a hybrid | Permanently operated at a lower voltage than designed | Crucial altered designs

Pylon	Year	Place	Code	Mass	Isotope	Valency	Voltage
Hengelo-Gronau	1984	SEP	380/110	50	55 S+12	4	
Oostring-combi	1988	SEP	380/110	55	S-6 53,5 S+6	4	
Duo-ton	2012	TenneT	380/150	60	53,5	4	
Duo-ton donauvariant	2012	TenneT	380/150	60	S-2 50 S+119	4	
Combiwintrack	2013	TenneT	380/150	50	S-2 55 S+119	4	
Zwolle-Meeden	1995	SEP	380/110	60	S-3 53,5 S+6	4	
Mammoetlijn	1995	SEP	380/220	70	S+0 59,5 S+45	4	
Maasbracht-Graetheide	1974	SEP	150/380		42,5 S+40	2	
PLEM RWE-den	1946	RWE	150/220	12	34	2	
IJsselmij 220-den op 110	1964	IJsselmij	110/220	25	40 S+25	2	
Haringvlietlijn	1977	EZH	50/150		S+0 30 S+113	2	
PGEM-ton-buis op 50	2001	Nuon	50/150	5	28 S+15	2	
Zwartsluise duivelshoorn	2014	TenneT	110	9	S+0 25 S+4	2	
PEB-buis-tonmast op 150	1982	EZH	150	6	27	2	
Wesselerbrink-Losser	1984	SEP	380/110	50	S-2 42,5 S+10	3(4)	
Maasbracht halve donau	1970		380		38	1(2)	
Etten-dubbeldrievlak	1969	PNEM	150	20	35	2(4)	
IJsselmij-viercircuit	1971	IJsselmij	110	20	40	2(4)	
Asymenkel buisdriehoek	1982	IJsselmij	110	4	24	1(2)	
NuonMagnum	2011	Nuon	380/110	52	S-12 53,5	2(4)	
Mammoet Bleiswijk	2011	TenneT	380	80	53,5	2(4)	
Verminkte insecten	1987	PGEM	150	4	28	1(2)	
PLEM-dubbeldrievlak	1969	PLEM	150	20	40	3(4)	
Delta 's Graveland	1969	PEN	150	15	S-10 42,5 S+12	2(3)	
Drutense maas-schraaltje	1979	PGEM	150		S-2 42,5 S+119	1(2)	
IJzelramphamerkop	1933	EGD	110	4	S-6 20 S+18	1(2)	
Groningen-Kropswolde	1959	EGD	110	10	S-6 30 S+18	2(3)	
DelfzijlGeefsweer	1973	EGD	110	12	40	1(2)	

'Combinatiemast' series

Pylons designed to operate nominal two or more voltages, or to carry circuits in two or more geometrical shapes at the same pylon.
Group also includes currently subnominal operated pylons, false hybrids and pylons altered so severe that a combination of two designs seems to have appeared.

'Onvolledig uitgenut' series

Pylons designed to carry more circuits than present.

Do you want to learn more?

Hidden behind the wall socket, there is a world of cables, generators, transformers and grid operators. Powerlines are a crucial part of this. But in our daily life, we don't pay attention to them. That's a pity, because our modern society would be impossible without these highways for electricity. Becoming curious? Welcome to the world of the power grid.

HoogspanningsNet - www.hoogspanningsnet.com
Home of the Dutch languaged community of people interested in the world of the power grid and electricity networks.

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