



***Ground rail transport***



**MONORAIL**



*Monorail suspended transport*

**RAIL**



*Ground rail transport*

**TRACKLESS**



*Wheeled transport*

**MINING**



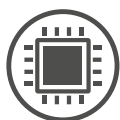
*Mining activity*

**SAFETY**



*Mining rescue equipment*

**ELECTRIC**



*Monitoring and communication systems*



## ***Ground rail transport***

Ground rail transport is used for transport of material and persons on horizontal surface tracks or roadways and tunnels of underground mines where the track inclination does not exceed 35 ‰ and the profile is  $\geq 10\text{m}^2$ . Provided that underground roadways are driven horizontally with their life span planned in an order of years, the ground rail transport becomes the most efficient and economical mode of transport with highest transport capacity.

The fundamental part of the rail transport system is a track, which is composed of rails, matching the projected carrying capacity, fastening and anchoring elements, curves, switches and other accessories. The rails are being installed in most common gauges ranging from 450 to 900 mm and wider gauges are rarely being used. Sliding track elements (switches) can be operated manually, pneumatically or electrically by remote control, thus extremely improving productivity and transport logistics. Underground wagons, containers, platforms and support systems with capacity of 2 to 20 tons are being transported on the rail track.

In cases, where there is requirement on transport of excessive loads in inclined roadways of up to 30 degrees, ground diesel-hydraulic rack and pinion systems might be used. Ground rack and pinion electro-hydraulic systems might be used in inclines of up to 35 degrees, however with action radius limited by an electric supply cable. The rack and pinion traction units are operating and transporting loads on special purpose made track sections with a welded rack. The locomotives or power units are using a hydraulically powered pinions for transmission of torque on the rack track.

All ground rail transport products meet requirements for operation in mines classified as hazardous areas with mining gasses and coal dust explosion danger (flameproof mines) like coal mines. The exceptions are machines operated outside these areas (e.g. ore mines, surface operations) which are considered as non-flameproof mines.

### Key



Suitable to areas with  
no explosion danger



Suitable to areas with  
explosion danger

# Diesel hydraulic locomotive

## DLP50F



Diesel hydraulic locomotive DLP50F belongs to the 8.5t weight range with two driver's cabins. It is driven by a four cylinder engine and it is equipped with flameproof protections enabling its use in areas with occurrence of methane and coal dust. Locomotive's operational mode, speed, motor hours, pressure and temperature values of diesel-hydraulic aggregate are controlled by an electronic control and safety system.

### Specification:

Power:	<b>36 kW</b>
Max. traction force:	<b>20 kN</b>
Max. inclination:	<b>35 ‰</b>
Gauge:	<b>550 - 900 mm</b>
Wheelbase:	<b>1150 mm</b>
Total weight:	<b>8,2 t</b>

## DLP140F



Diesel hydraulic locomotive DLP140F belongs to the 15t weight range with two driver's cabins. This locomotive is also manufactured in 13t version at request. It is driven by a six cylinder engine which is together with its electric and electronic control system manufactured in flameproof design enabling its use in areas with occurrence of methane and coal dust.

### Specification:

Power:	<b>104 kW</b>
Max. traction force:	<b>40 kN</b>
Max. inclination:	<b>35 ‰</b>
Gauge:	<b>550 - 900 mm</b>
Wheelbase:	<b>1450 mm</b>
Total weight:	<b>15,5 t</b>

## PLP50F

Diesel hydraulic locomotive PLP50F belongs to the 8.5t weight range with single driver's cabin. The locomotive is designed for surface operations or areas with no methane or coal dust explosion danger (non-flameproof mines). It uses identical diesel aggregate as it's flameproof modification DLP50F. Locomotive's electronic functions are also offering same amount of control.

### Specification:

Power:	<b>36 kW</b>
Max. traction force:	<b>20 kN</b>
Max. inclination:	<b>35 ‰</b>
Gauge:	<b>600 - 900 mm</b>
Wheelbase:	<b>1300 mm</b>
Total weight:	<b>8,2 t</b>



Locomotives may be manufactured in various modifications



# Diesel hydraulic locomotive

## PLP50F-II

Another purpose made modification of PLP50F locomotive. The locomotive has been customized for belt conveyors maintenance works as transport and changing of conveyor rollers, pulling and powering hydraulic roller manipulator and transport of persons.

### Specification:

Power:	<b>36 kW</b>
Max. traction force:	<b>14 kN</b>
Max. inclination:	<b>40 ‰</b>
Gauge:	<b>900 mm</b>
Wheelbase:	<b>1150 mm</b>
Total weight:	<b>5 t</b>

## PLP50F-II-M

The PLP50F-II-M locomotive is functionally identical modification of PLP50F with same traction capabilities. It has been purposely designed on customer's request in order to dimensionally fit to local transport route conditions. (building underground metro)

### Specification:

Power:	<b>36 kW</b>
Max. traction force:	<b>20 kN</b>
Max. inclination:	<b>50 ‰</b>
Gauge:	<b>600 - 900 mm</b>
Wheelbase:	<b>1300 mm</b>
Total weight:	<b>8,5 t</b>



Locomotives may be manufactured in various modifications

# Electric and battery powered locomotives

## DLPA44F



The battery electric locomotive belongs to the 10t weight range with two driver's cabins. The locomotive is manufactured in flameproof design. It is driven by variable frequency electric motors which are power supplied by a traction battery. The locomotive is usually supplied together with a battery charger and two batteries which ensure smooth operation without time delays (one battery in operation, second battery on charge).

### Specification:

Power:	2 x 22 kW
Max. traction force:	22 kN
Max. inclination:	35 ‰
Gauge:	550 - 900 mm
Wheelbase:	1250 mm
Battery life:	8 hod.

## DLPA2x44F-K



The purpose built battery electric locomotive belongs to the 18t weight range with two driver's cabins. The locomotive is manufactured as modified version of DLPA44F with increased dead weight and traction parameters.

### Specification:

Power:	4 x 22 kW
Max. traction force:	40 kN
Max. inclination:	35 ‰
Gauge:	600 - 750 mm
Wheelbase:	1250 mm
Battery life:	8 - 24 hod.

## DLPA90F



The purpose built battery electric locomotive belongs to the 19 t weight range with two driver's cabins. The locomotive is specially designed for use on 1067 mm gauge tracks with ability to operate in gradients of up to 50 ‰.

### Specification:

Power:	45 kW
Max. traction force:	48 kN
Max. inclination:	50 ‰
Gauge:	1067 mm
Wheelbase:	1700 mm
Battery life:	8 hod.



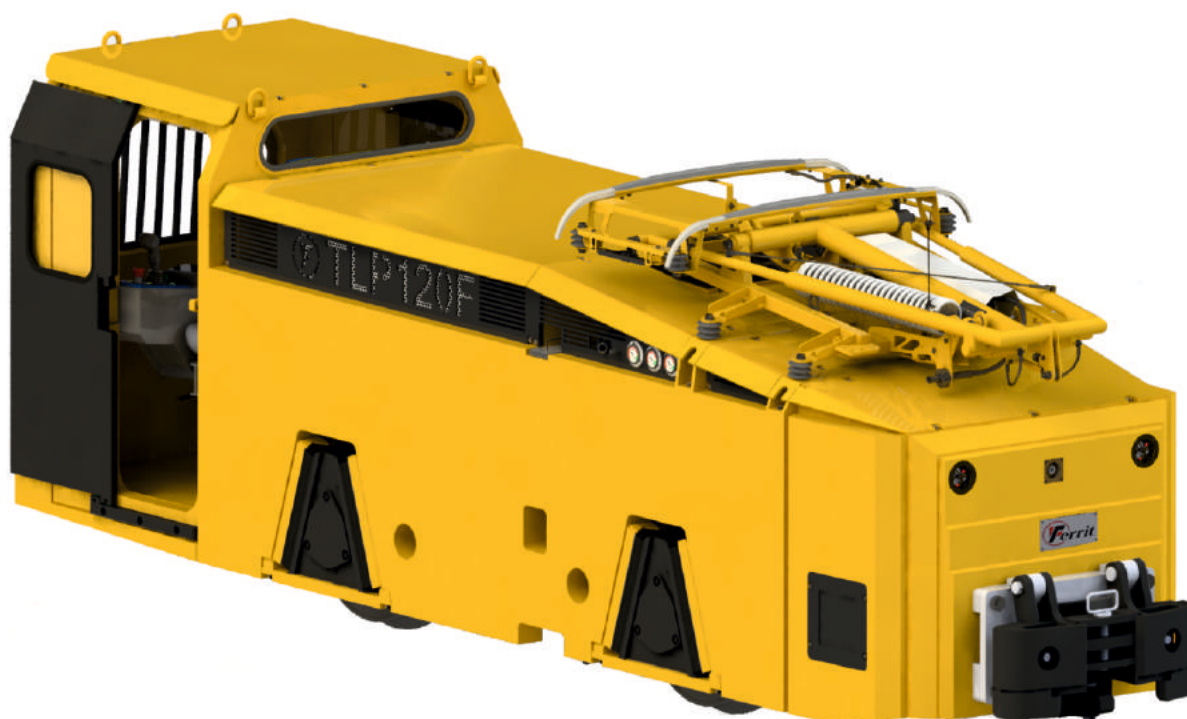
# Electric trolley locomotives

## TLP120F

The trolley electric locomotive is designed for use in underground or surface operations with no methane or coal dust explosion danger (non-flameproof mine). It belongs to 20t weight range with a single driver's cabin. It is powered by electric motors and frequency convertors. The locomotive's driving and control systems are power supplied from the trolley line through a collector.

### Specification:

Power:	<b>2 x 75 kW</b>
Max. traction force:	<b>55 kN</b>
Max. inclination:	<b>35 ‰</b>
Gauge:	<b>750 - 900 mm</b>
Wheelbase:	<b>1800 mm</b>
Total weight:	<b>20 t</b>



Locomotives may be manufactured in various modifications

Thanks to Ferrit's global experience and flexibility, all locomotives may be modified into various versions. Machines may be manufactured in flameproof or non-flameproof designs with focus to quality with aim to customer's satisfaction.

Supplied machines may be equipped by various auxiliary equipment as for instance mechanisms for changing of conveyor rollers, brushes for track cleaning, ploughs etc.

# Rack and pinion systems

## DLZ110F.NZD



The diesel hydraulic rack and pinion locomotive works on same principles as the electric EHT180 except that the electric motor is replaced by a diesel one, which does not suffer from supply cable action radius limitations. It is therefore suitable for long distances heavy transport in inclinations of up to 30 degrees. The locomotive is equipped with two driver's cabins and an electronic control system enabling monitoring of all important machine's operational values.

### Specification:

Power:	<b>81 kW</b>
Max. traction force:	<b>120 - 240 kN</b>
Max. inclination:	<b>30 °</b>
Max. speed:	<b>1 - 5 m/s</b>
Number of cabs:	<b>2</b>
Weight:	<b>9 t</b>

## EHT180



The electro hydraulic rack and pinion power unit is designed for transport of material along the rack track in inclines of up to 35 degrees. It is usually used for short distance material transport, for example transport of longwall components from assembly chamber to face etc. The driving hydraulic motors (or planetary gearboxes) are supplied by a hydraulic pressure from hydraulic pump, which is powered by an electric motor. The machine is power supplied by an electric cable and moves on special rack track sections.

### Specification:

Max. traction force:	<b>110 - 220 kN</b>
Max. inclination:	<b>35 °</b>
Max. speed:	<b>1,67 m/s</b>
Number of cabs:	<b>0</b>
Weight:	<b>10 t</b>



**Locomotives may be manufactured in various modifications**





## Technical parameters table

Type	Height	Width	Length
DLP50F	1450	1100-1250*	4800-4900*
PLP 50F - II	2140	1050	3760
PLP50F-II-M	1650	1100-1250*	4480
PLP 50F	2100	1100-1250*	4330
DLP 140F	1600	1150-1350*	5800-6000*
DLPA 2x44F-K	1600	1100-1250*	9090
DLPA 44F	1600	1100-1250*	5557
DLPA 90F	1850	1450	6170
TLP 120F	1650	1300	5500
DLZ 110F.NZD	1650	1200	10900
EHT 180	1750	2076	9000

\*depending on the gauge

### NOTES

---

---

---

---

---

---

---

---

---

---

## This image shows a single sheet of white paper with horizontal blue or grey ruling lines. A bright yellow arrow is positioned on the left side, pointing towards the center of the page. The paper appears slightly aged or off-white. There are some faint, light-colored smudges or marks scattered across the surface, particularly near the bottom edge. The overall composition is simple and clean, typical of a notebook or a piece of stationery.

 *Ferrit* | *RAIL.*

# Company Ferrit operates in many countries worldwide



**CZECH REPUBLIC**  
Ferrit s.r.o.  
Na Zbytkách 41  
739 01 Staré Město  
Czech Republic

**Tel.:** +420 558 411 629  
+420 558 411 605  
**Fax:** +420 558 411 620  
**E-mail:** ferrit@ferrit.cz



**MEXICO**  
Ing. Rodolfo José Saucedo  
Aquirre  
Bravo norte 1084, Zona centro  
Saltillo - Coah.  
Mexico C.P.25000

**Tel.:** +52 18444550427  
**E-mail:** rodolfo\_saucedo@hotmail.com

Contact person:  
**Ing. Yvona Mohelníková**  
(FERRIT)

**E-mail:** mohelnikova@ferrit.cz



**SLOVAKIA**  
Ferrit Slovakia s.r.o.  
Košovská 309/18  
972 17 Kanianka, Slovakia

**Tel.:** +421 465 420 235  
+421 465 420 236  
**Cell.:** +421 910 916 969  
+421 903 271 200  
**Fax:** +421 465 401 138  
**E-mail:** ferrit@ferrit.sk



**CHILE**  
FERRIT s.r.o.  
Juan Antonio Rios No. 813  
Diego de Almagro, Comuna Diego  
de Almagro,  
Provincia Chafñaral, Region de  
Atacama, Chile

**Tel.:** +56 956 194 371  
**Cell.:** +420 778 440 977  
**E-mail:** paleckova@ferrit.cz



**POLAND**  
Ferrit Poland Sp. z o.o.  
Ul. Warowna 49  
43-200 Psczyno

**Tel.:** +048 604 254 094  
**E-mail:** poland@ferrit.cz



**BOSNIA AND HERZEGOVINA**  
En - Union d.o.o.  
Mikelje Tešica 12  
75000 Tuzla  
Bosnia and Herzegovina

**Tel.:** +387 35 313 - 110  
**Fax:** +387 35 313 - 120  
**E-mail:** en\_union@bih.net.ba  
ferrit@ferrit.cz



**KAZAKHSTAN**  
TOO «KARFERR»  
Alikhanova str. 13  
Karaganda 470061  
Kazakhstan

**Tel./fax:** +7 7212 493 449  
**E-mail:** karferr@mail.ru



**SUB-SAHARAN AFRICA**  
AARD Mining Equipment  
44 Jacobs Street, Chamdor,  
Krugersdorp  
Gauteng, 1729,  
SOUTH AFRICA

**Tel.:** +27 11 279 5300  
**Fax:** +27 11 279 5400  
**E-mail:** info@aardme.co.za  
[www.aardme.com](http://www.aardme.com)

Contact person:  
**Ing. Barbora Veličková**  
(FERRIT)

**E-mail:** velickova@ferrit.cz



**COLUMBIA**  
Dismet Ltd.  
Bogotá - Colombia  
Suramérica  
Calle 9 No. 41B-16

**Tel.:** +571 749 4000  
**Fax:** +571 237 3423  
**E-mail:** dismet@dismet.com



**CHINA**  
Ferrit Mining Transportation  
Equipment  
(Beijing) Ltd.  
Shu Guang Xi Li Jia num.1  
Chaoyang district  
Beijing, China, 100028

**Tel.:** +86610 582 217 10  
**E-mail:** ferrit\_tracey@163.com



**TURKEY**  
**FERRIT (MERKEZİ ÇEK CUMHURİYETİ)**  
**LTD. ŞTİ. – TÜRKİYE ANKARA ŞUBESİ**  
Oğuzlar Mah. Ceyhan Atif Kansu  
Cad. 1370 SOK. No.:22/2  
Balgat – Çankaya / Ankara

**Tel.:** +90 312 473 5762  
**Fax:** +90 312 473 5736  
**E-mail:** juraj.svorc@ferrit.cz

Taian Ferrit Machinery Co.,Ltd.,  
Street Peitianmen West,  
High and New Technology  
Development Area,  
271 000 Taian City,  
Shandong province, China

**Tel.:** 0086 5388926628  
0086 53889226625  
**Fax:** 0068 5388926625



**UKRAINE**  
ІП «Укртранссервіс»  
Universitetskaya str. 7A  
Donetsk 83000  
Ukraine

**Tel.:** +38 062 349 7003  
**Cell.:** +38 050 425 3562  
**E-mail:** ip-uts@rambler.ru



**RUSSIAN FEDERATION**  
ООО «SIBTRANSSERVIS»  
Zorina str. 8-b  
Leninsk-Kuznetsky 652 502  
Kemerovskaya district  
Russia

**Tel.:** +7 3845 653 131  
+7 3845 653 130  
**Fax:** +7 3845 653 128  
**E-mail:** sibtranss@mail.ru  
[www.sibtranss.ru](http://www.sibtranss.ru)



**AUSTRALIA A NEW ZEALAND**  
Macquarie Manufacturing Pty Ltd  
Head Office  
6 Immana Road, Rathmines  
PO Box 98 Toronto NSW 2283  
Australie

**Tel.:** +420 558 411 629  
+420 558 411 605  
**Fax:** +420 558 411 620  
**E-mail:** ferrit@ferrit.cz



**INDIA**  
Ferrit s.r.o.  
Na Zbytkách 41  
739 01 Staré Město  
Czech Republic

**Tel.:** +420 558 411 605  
**E-mail:** ferrit@ferrit.cz



**VIETNAM**  
Export - Import  
Mining Machines, s.r.o.  
Výstavní 1928/9, Moravská  
Ostrava, 702 00 Ostrava

**Tel.:** +420 556 801 261  
**E-mail:** info@eimm.cz  
ferrit@ferrit.cz