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[logotip FAKRO]

KATALOG

Katalog 2021: krovni prozori (FPP-V, FTP-V, FTU-V, PTP-V, FTT, FYP-V, FDY-V, FGH-V, FXP, BD_), opšivke, pribor, Z-Wave upravljanje i prozori za izlaz na krov

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STRANA 1 ORIGINALA

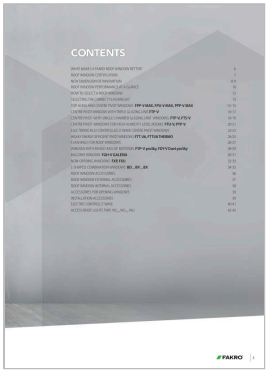
KATALOG PROIZVODA 2021



STRANA 2 ORIGINALA

30 GODINA RJEŠENJA ZA DOM

Riječ ‘DOM’ budi pozitivne asocijacije, jer su to često naša sjećanja, a ponekad i snovi. Svi mi u kompaniji FAKRO razmišljamo kako da život u domu uvijek bude pun prirodne svjetlosti, zdrav i udoban – jednostavno jedinstven.
Zato, vjerna svojoj misiji, kompanija FAKRO već 30 godina proizvodi stolariju koja stoji iza izuzetnih rješenja za dom.



STRANA 3 ORIGINALA

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STRANA 4 ORIGINALA

MIJENJAMO VAŠ POGLED



STRANA 5 ORIGINALA

Uloga koju krovni prozori imaju u potkrovnim prostorijama u velikoj je mjeri promijenila način na koji gledamo na uređenje enterijera. Bilo da je riječ o kući ili o poslovnom projektu, naš veliki izbor krovnih prozora može se koristiti na mnogo različitih načina. Naše borovo drvo sa gustim godovima izgledaće sjajno godinama, a naši elegantni, moderni ramovi daju veću površinu stakla i propuštaju više svjetlosti. Uz sve ove prednosti i mnoge druge, lako je razumjeti zašto krovni prozori FAKRO postaju središnja tačka prostora sami po sebi i izazivaju tako dosljedno pozitivne komentare.

Za one koji žele da postignu najviši nivo uštede energije, BREEAM, Passive House ili „EnerPHit", naša FTT serija bez ventilacije, sa trostrukim i četvorostrukim staklopaketom, nudi izuzetan standard performansi. U osnovi svih naših proizvoda FAKRO obezbjeđuje visok nivo sigurnosti, veoma izdržljive šarke i zaptivke i standard obrade drveta za koji vjerujemo da nema premca.

FAKRO koristi drvo iz odgovorno upravljanih izvora i, pored prirodnog bora, možete birati proizvode sa bijelim PU premazom, od bora ili od PVC-a, a svi su dostupni u konzervatorskoj izvedbi i kao proizvodi sa BBA, IAB i FSC® sertifikatom; uz garanciju od 10 godina na prozore i 20 godina na staklopakete, to vam daje mir da je ime FAKRO sinonim za kvalitet.



STRANA 6 ORIGINALA

ŠTA ČINI KROVNI PROZOR FAKRO BOLJIM?

Krovni prozori FAKRO projektovani su tako da budu središnja tačka svake prostorije, bilo da ih koristite pojedinačno ili u kombinacijama. Njihov elegantan izgled prati najviši standard izrade i završne obrade, što znači da možete biti sigurni da će i narednih godina izgledati lijepo. Naši prozori nude savršenu kombinaciju stila, održivosti, sigurnosti i dugog vijeka trajanja. Postizanje tako visokih performansi zahtijeva stalno usavršavanje i poboljšavanje svakog krovnog prozora koji projektujemo.

Vrhunska borovina gustih godova

Bor koji koristimo najjasniji je vizuelni dokaz kvaliteta naših krovnih prozora. Gusti godovi ne samo da izgledaju elegantno, već drvo nabavljamo iz izvora sa FSC® sertifikatom.

Automatski kontrolisana ventilacija

Automatska ventilaciona klapna FAKRO V40P, koja se ugrađuje u FAKRO krovne prozore

od bora, aktivira se promjenama atmosferskog pritiska. Obezbjeđuje optimalnu ravnotežu svježeg vazduha bez obzira na vremenske uslove.

Jednostavna ugradnja
Naš jednostavan sistem ugradnje pomoću nosača („bracket fix") omogućava da se prozori postave ili na rogove ili na letve i oplatu (sarking).

Izuzetna sigurnost
FAKRO sistem TopSafe® daje povjerenje i mir da naši krovni prozori nude izuzetnu otpornost na provalu. TopSafe obezbjeđuje dodatno ojačanje šarki i brave kako bi se spriječilo nasilno otvaranje krila.

Garancije performansi
Bez obzira na to da li kupujete prozor od prirodnog bora, bora sa PU premazom ili od PVC-a, FAKRO nudi garanciju od 10 godina za sve prozore i garanciju od 20 godina za staklopakete. Nudimo i doživotnu garanciju bez komplikacija protiv oštećenja od grada.

- 10 godina garancije za prozor
- 20 godina garancije za staklopaket
- Doživotna garancija na otpornost staklopaketa na grad

Izbor unutrašnje obrade
FAKRO nudi dvije vrste krovnih prozora za prostorije u kojima se javlja visok nivo vlažnosti. Možete izabrati ili bor sa bijelim poliuretanskim premazom ili PVC u bijeloj boji, u izvedbama zlatni hrast i bor.

thermoPro tehnologija
VELIKE UŠTEDE ENERGIJE
Ono što zaista izdvaja prozore FAKRO jeste njihov nizak nivo gubitka toplote. Za razliku od nekih proizvođača koji navode U-vrijednosti samo za staklopakete, FAKRO daje podatke za cijeli prozor. Kada uporedite naše performanse sa drugim proizvodima, vidjećete da naš FTT U8 Thermo bez ventilacije, sa četvorostrukim staklopaketom, ima jedinstvenu površinu staklopaketa i U-vrijednost od 0.58 W/m²K, što je vodeće na tržištu.

Ne radimo samo bijelo
Krovni prozori FAKRO mogu se izraditi u bilo kojoj boji iz klasične RAL palete. To je preko 200 boja koje kupci mogu odabrati posebnom narudžbom za svoje projekte. Naši standardni krovni prozori od prirodnog bora, sa bijelim akrilom, sa PU premazom i od PVC-a mogu se dobiti sa zalihe u roku od tri dana.

Oznake na crtežima

ROOF WINDOWS IN ANY RAL COLOUR krovni prozori u bilo kojoj RAL boji



STRANA 7 ORIGINALA

SERTIFIKATI

Jedan od ključnih faktora po kojima se proizvođači međusobno razlikuju jeste sertifikacija proizvoda. U kompaniji FAKRO stalno tražimo načine da inoviramo i unaprijedimo naša rješenja, ne samo kod novih krovnih prozora, već i kod postojećih. Tako smo 2012. godine ponovo postavili standard u industriji, kada smo za naš vodeći FTT U8 Thermo sa četvorostrukim staklopaketom dobili sertifikat Passive House. FTT U8 nudi zadivljujuću U-vrijednost od 0.58 W/m²K i predstavlja idealno rješenje za vazduhonepropusne konstrukcije.

NBS Plus – FAKRO specifikacione klauzule dostupne su putem NBS Plus. To omogućava da se sažete, tehnički tačne i ažurne informacije o našem širokom asortimanu krovnih prozora i krovnog pribora mogu kopirati i zalijepiti.

Na isti način smo predvodili tržište, postavši prvi proizvođač krovnih prozora koji je dobio BBA sertifikat – još davne 2002. godine. Danas je akreditovano mnogo više naših proizvoda, uključujući naše popularne serije prozora sa centralnom osovinom okretanja, sa gornjim otvaranjem i okretnih prozora.
To uključuje proizvode u konzervatorskoj izvedbi i visoko toplotno efikasan prozor FTT U6 sa trostrukim staklopaketom, dok za projektante i kupce u Irskoj imamo i sertifikat Irish Agrément Board (IAB).

FAKRO je jedini proizvođač krovnih prozora koji posjeduje i NSAI i BBA akreditacije.

Naši krovni prozori vam omogućavaju da kupite ili navedete u specifikaciji proizvode od drveta iz održivih izvora; zaista, mi smo jedini takav proizvođač koji nudi FSC® sertifikat za kvalitetniji bor sa gustim godovima koji koristimo. Takođe sve prozore projektujemo tako da se mogu rastaviti radi reciklaže svih dijelova, što, zajedno sa upotrebom održivog drveta, pokazuje koliko smo posvećeni pitanjima zaštite životne sredine.

CE oznaka je svojevrsna propusnica koja omogućava da se građevinski proizvod, bez obzira na porijeklo, legalno stavi na tržište svih država članica EU. Za razliku od nekih proizvođača, FAKRO deklariše sve detalje performansi za sve tačke koje čine CE oznaku, što je još jedan dokaz da naši proizvodi prevazilaze minimalne standarde u pogledu zdravlja, bezbjednosti i uštede energije.



STRANA 8 ORIGINALA

NOVA DIMENZIJA INOVACIJA

Inovacija je DNK kompanije FAKRO i glavna pokretačka snaga njenog razvoja. To je filozofija nekonvencionalnog razmišljanja, zahvaljujući kojoj nova rješenja proširuju funkcionalnost i unapređuju kvalitet proizvoda. Kompanija FAKRO redefinisala je krovne prozore uvođenjem automatske ventilacione klapne V40P, sistema topSafe koji ojačava konstrukciju prozora ili tehnologije thermoPro koja povećava kvalitet i parametre prozora.
Usmjeravajući se na razvoj i inovacije, FAKRO doprinosi stvaranju udobnih uslova života za ljude širom svijeta.

SISTEM TOPSAFE
POVEĆANA SIGURNOST

Krovni prozori moraju obezbijediti sigurnost pri upotrebi i zaštitu od neovlašćenog pristupa prostoriji sa krova. Poseban sistem ojačanja konstrukcije prozora topSafe značajno poboljšava otpornost krovnih prozora na pokušaje provale i štiti od otvaranja krila pod pritiskom stopala ako se na njega nehotice stane.
Sistem topSafe sastoji se od:

- **Inovativni** – sistem ugradnje šarki posebnog oblika,
- **Metalni** – element koji ojačava sistem zaključavanja,
- **Metalni** – čelična šipka koja otežava obijanje prozora alatom

AUTOMATSKI ULAZ VAZDUHA V40P

Nalazi se u gornjem dijelu rama. Pri razlici pritisaka od 10 Pa kapacitet ulaza vazduha iznosi do 49 m³/h, u zavisnosti od širine prozora. Kapacitet raste do tačke u kojoj se postiže optimalna vrijednost. Ako razlika pritisaka nastavi da raste, protok vazduha ostaje na istom stabilnom nivou. Elastična, pneumatska klapna se savija i ograničava količinu vazduha koji ulazi smanjivanjem poprečnog presjeka kanala za ulaz vazduha, npr. kada se pojave snažni udari vjetra i u zimskom periodu.

TEHNOLOGIJA THERMOPRO

Krovni prozori izrađuju se primjenom thermoPro tehnologije. Uvedena rješenja obezbjeđuju bolji kvalitet i parametre prozora. ThermoPro tehnologija povećava energetsku efikasnost, obezbjeđuje veću trajnost, osigurava odličnu zaptivenost i olakšava postupak ugradnje krovnih prozora.

BOLJA TOPLOTNA IZOLACIJA PROZORA

- Manji gubitak toplote i niži računi za grijanje
- Nova verzija premaza niske emisije na staklu
- Uvođenje izolacionih umetaka u donjim uglovima krila radi poboljšanja energetske efikasnosti prozora

VEĆA ZAPTIVENOST PROZORA U POGLEDU PROPUSTLJIVOSTI VAZDUHA

Prozori izrađeni primjenom thermoPro tehnologije imaju 3. i 4. klasu zaptivenosti prema EN12207, čime se smanjuje količina vazduha koji prodire u prostoriju. To je posebno važno kod mehaničke ventilacije.

VEĆA TRAJNOST DRVETA ZAHVALJUJUĆI KANALIMA ZA ODVOĐENJE VODE

U donjim uglovima rama uvedeni su posebni kanali za odvođenje vode od kondenzacije i moguće prokišnjavanja izazvanog, npr. oštećenim spoljnim aluminijumskim profilima. Drveni profili su manje izloženi vlazi, što doprinosi njihovoj trajnosti.

LAKŠA UGRADNJA, VEĆI KOMFOR RADA

Novi nosači olakšavaju radove na ugradnji i povećavaju mogućnost podešavanja krovnih prozora tokom njihove ugradnje.
Pored toga, upotreba Torx vijaka pojednostavljuje postupak ugradnje krovnih prozora.



STRANA 9 ORIGINALA

KONSTRUKCIJA KROVNOG PROZORA

VRSTE KONSTRUKCIJE PROFILA PROZORA

Prozori treba da se biraju prema nivou vlažnosti u prostoriji.

Drvo sa bezbojnim akrilnim premazom

Osnovni materijal za izradu prozora je posebno odabrana visokokvalitetna borovina, lijepljena u slojevima. Drvo je vakuumski impregnirano i lakirano ekološki prihvatljivim akrilnim lakom u prirodnoj boji. Takvi prozori nalaze primjenu u većini prostorija na potkrovlju.

FAKRO nabavlja drvo iz šuma kojima se planski gazduje i u proizvodnji koristi ekološki prihvatljive materijale koji ne sadrže štetne materije.

Drvo sa bijelim poliuretanskim slojem

Za prostorije sa povremeno povišenim nivoom vlažnosti (kuhinje, kupatila) preporučujemo drvene prozore premazane sa tri sloja bijelog poliuretanskog laka, čime se dobija postojana i savršeno glatka površina. Vidljivi dijelovi prozora, kao što su svornjaci ili elementi za zaključavanje, izrađeni su od plastike bijele boje, što doprinosi njegovoj estetici. Ručka je srebrne boje.

Aluminijumska obloga – PVC

PVC prozori sa aluminijumskom oblogom namijenjeni su prostorijama sa povećanom vlažnošću (kupatila, prostorije za kupanje). Višekomorni PVC profili ojačani su iznutra pocinkovanim čelikom. Plastika upotrijebljena u prozoru ne upija nikakvu vlagu, a sam prozor je trajan i otporan na koroziju.
PVC profili su klasifikovani u klasu A – najvišu prema standardu EN 12608. Prozori su dostupni i u furniru zlatni hrast (GO) i bor (PI).
Odabrani prozori izrađuju se inovativnom tehnologijom spajanja profila V-PERFECT.

GARANCIJA

- 10 godina garancije za prozor
- 20 godina garancije za staklopaket i elemente okova*
- DOŽIVOTNA garancija na otpornost staklopaketa na grad

*Detalji se nalaze u garantnom listu koji je dostupan na www.fakro.com i kod trgovaca građevinskim materijalom

STRANA 10 ORIGINALA

KROVNI PROZORI – PERFORMANSE UKRATKO

Krovni prozori sa centralnom osovinom okretanja i dalje su najpopularnije rješenje, sa velikim izborom opcija, uključujući visoko energetski efikasne prozore pogodne za vazduhonepropusnu gradnju i prozore otporne na provalu (naročito pogodne za krovove malog nagiba i zgrade sa više korisnika). Svi se mogu okrenuti za 180° radi čišćenja spoljnog stakla iz prostorije. Na raspolaganju su prirodni bor, bijeli akril, bor sa bijelim PU premazom i PVC.

Krovni prozori sa dvije funkcije, gornjim otvaranjem i okretanjem, pružaju potpunu fleksibilnost upotrebe. Kada je otvoren, položaj gornjeg otvaranja daje nesmetan pogled na manjoj visini nego prozor sa centralnom

osovinom okretanja, dok rad sa centralnom osovinom omogućava da se krilo okrene za 180° radi čišćenja spoljnog stakla iz prostorije. Na raspolaganju su prirodni bor, bor sa bijelim PU premazom i PVC.

Krovni prozori sa podignutom osovinom okretanja funkcionišu na isti način kao prozori sa centralnom osovinom okretanja, ali je osovina okretanja nešto više u ramu, da bi se i višim osobama omogućilo da priđu otvorenom prozoru. Time se postiže veća visina stakla bez povećanja širine prozora. Uz mogućnost izbora i prozora sa dva krila u jednom ramu (prozor FDY-V proSky Duet), visina može da dosegne do 2.35 metara.

STANDARDNI KROVNI PROZORI

vrsta	PROZORI SA GORNJIM OTVARANJEM I OKRETANJEM			
materijal	drvo	drvo	PVC	PVC
prirodni bor	FPP-V U3 preSelectMAX	FPP-V U5 preSelectMAX	-	-
bijeli poliuretan	FPU-V U3 preSelectMAX	FPU-V U5 preSelectMAX	-	-
konzervatorska verzija:	+	+	+	+
izgled				
ulaz vazduha	V40P	V40P	V35	V35
protok vazduha kroz ulaz	do 49 m³/h	do 49 m³/h	do 41 m³/h	do 41 m³/h
zastakljenje	dvostruko	trostruko	dvostruko	trostruko
Ug (EN 673)	1.0 W/m²K	0.5 W/m²K	1.0 W/m²K	0.5 W/m²K
Uw	1.3 W/m²K	1.0 W/m²K	1.3 W/m²K	1.1 W/m²K
topSafe sistem	+	+	+	+
zvučna izolacija	32 dB	33 dB	32 dB	34 dB
ručka	elegant	elegant	elegant white	elegant white
zaptivke	4	4	4	4
nagib ugradnje	15-55° (85°)	15-55° (85°)	15-55° (85°)	15-55° (85°)

vrsta	SA CENTRALNOM OSOVINOM OKRETANJA							
materijal	drvo	drvo	drvo	drvo	drvo	drvo	PVC	PVC
prirodni bor	FTS-V U2	FTP-V U3	FTP-V U4	FTP-V U5	FTP-V P5	FTP R1	-	-
bijeli poliuretan	-	FTU-V U3	FTU-V U4	FTU-V U5	FTU-V P5	FTU R1	-	-
konzervatorska verzija:	+	+	+	+	+	+	+	+
izgled								
ulaz vazduha	V10	V40P	V40P	V40P	V40P	bez ventilacije	V35	V35
protok vazduha kroz ulaz	do 9 m³/h	do 49 m³/h	do 49 m³/h	do 49 m³/h	do 49 m³/h	-	do 41 m³/h	do 41 m³/h
zastakljenje	dvostruko	dvostruko	trostruko	trostruko	trostruko	dvostruko	dvostruko	trostruko

vrsta	SA CENTRALNOM OSOVINOM OKRETANJA							
Ug (EN 673)	1.1 W/m²K	1.0 W/m²K	0.7 W/m²K	0.5 W/m²K	0.5 W/m²K	1.0 W/m²K	1.0 W/m²K	0.5 W/m²K
Uw	1.3 W/m²K	1.3 W/m²K	1.1 W/m²K	0.97 W/m²K	0.97 W/m²K	1.3 W/m²K	1.3 W/m²K	1.0 W/m²K
topSafe sistem	+	+	+	+	+	+	+	+
zvučna izolacija	32 dB	32 dB	33 dB	33 dB	35 dB	39 dB	32 dB	34 dB
ručka	standardna	elegant	elegant	elegant	elegant	elegant	elegant white	elegant white
zaptivke	4	4	4	4	4	4	4	4
nagib ugradnje	15-90°	15-90°	15-90°	15-90°	15-90°	15-90°	15-90°	15-90°

STAKLOPAKET

STAKLOPAKET	U2	U3	U4	U5	P2	P5
STRUKTURA STAKLOPAKETA	4H-16-4T	4H-16-4T	4-12-4-12-4	4HT-10-4H-10-4HT	4H-15-33.2T	4HS-10-4HT-8-33.2T
TEHNIČKA SPECIFIKACIJA	ENERGETSKI EFIKASAN	UŠTEDA ENERGIJE	VISOKO ENERGETSKI EFIKASAN	VISOKO ENERGETSKI EFIKASAN	PROTIV PROVALE	SIGURNOSNO
ZASTAKLJENJE	DVOSTRUKO	DVOSTRUKO	TROSTRUKO	TROSTRUKO	DVOSTRUKO	TROSTRUKO
UNUTRAŠNJE LAMINIRANO STAKLO					(KLASA P2A)	(KLASA P2A)

Balkonski prozor je vrhunski, moderan prozor sa dva krila. Dok se gornje krilo otvara kao prozor sa gornjim otvaranjem, donje krilo sa laminiranim unutrašnjim staklom otvara se od dna i otkriva ugrađenu ogradu (balustradu).

L-kombinovani prozori omogućavaju da se bilo koji standardni krovni prozor kompanije FAKRO ugradi u vertikalni zid. Time se dobija znatno prošireno vidno polje i veća staklena površina, što maksimalno koristi prirodnu dnevnu svjetlost.

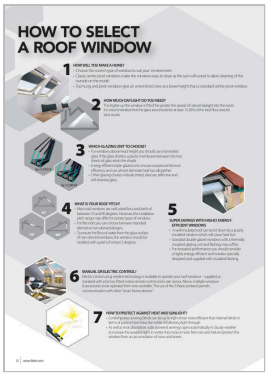
Konzervatorski krovni prozori projektovani su da ispune zahtjeve urbanističkog planiranja u zaštićenim zonama (konzervatorskim područjima) ili za osjetljive zahvate na starijim objektima. Pored toga što su svi naši standardni prozori dostupni u konzervatorskoj izvedbi, redovno se izrađuju i posebne narudžbe po mjeri.

vrsta	SA CENTRALNOM OSOVINOM OKRETANJA				SA PODIGNUTOM OSOVINOM OKRETANJA		
materijal	drvo	drvo	drvo	drvo	drvo	drvo	drvo
prirodni bor	FTP-V U3 Z-Wave	FTT U8 Thermo	FTT U6	FTT R3	FYP-V U3 proSky	FYP-V U5 proSky	FDY-V U3 Duet proSky
bijeli poliuretan	FTU-V U3 Z-Wave	FTT/U U8 Thermo	FTT/U U6	FTT/U R3	FYU-V U3 proSky	FYU-V U5 proSky	FDY-V/U U3 Duet proSky
konzervatorska verzija:	+	+	+	+	+	+	+
izgled							
ulaz vazduha	V40P	bez ventilacije	bez ventilacije	bez ventilacije	V40P	V40P	V40P

vrsta	SA CENTRALNOM OSOVINOM OKRETANJA				SA PODIGNUTOM OSOVINOM OKRETANJA		
protok vazduha kroz ulaz	do 49 m³/h	-	-	-	do 49 m³/h	do 49 m³/h	do 49 m³/h
zastakljenje	dvostruko	četvorostruko	trostruko	trostruko	dvostruko	trostruko	dvostruko
Ug (EN 673)	1.0 W/m²K	0.3 W/m²K	0.5 W/m²K	0.5 W/m²K	1.0 W/m²K	0.5 W/m²K	1.0 W/m²K
Uw	1.3 W/m²K	0.58 W/m²K	0.80 W/m²K	0.81 W/m²K	1.3 W/m²K	0.97 W/m²K	1.3 W/m²K
topSafe sistem	+	+	+	+	+	+	+
zvučna izolacija	32 dB	36 dB	38 dB	42 dB	32 dB	31 dB	32 dB
ručka	–	elegant	elegant	elegant	elegant	elegant	elegant
zaptivke	4	5	5	5	4	4	4
nagib ugradnje	15-90°	15-70°	15-70°	15-70°	20-65°	20-65°	25-65°

vrsta	BALKONSKI		L-KOMBINOVANI		SA BOČNIM OTVARANJEM
materijal	drvo	drvo	drvo	drvo	drvo
prirodni bor	FGH-V P2 Galeria	FGH-V P5 Galeria	BD_ P2, BVP P2, BXP P2	BD_ P5, BVP P5, BXP P5	FWP P2
bijeli poliuretan	FGH-V/U P2 Galeria	FGH-V/U P5 Galeria	BD_/U P2, BVU P2, BXU P2	BD_/U P5, BVU P5, BXU P5	FWU P2
konzervatorska verzija:	-	-	-	-	+
izgled					
ulaz vazduha	V40P	V40P	—	—	—
protok vazduha kroz ulaz	do 49 m³/h	do 49 m³/h	—	—	
zastakljenje	dvostruko	trostruko	dvostruko	trostruko	dvostruko
Ug (EN 673)	1.1 W/m²K	0.5 W/m²K	1.1 W/m²K	0.5 W/m²K	1.0 W/m²K
Uw	1.5 W/m²K	1.1 W/m²K	1.3 W/m²K	0.88 W/m²K	1.3 W/m²K
topSafe sistem	+	+	—	—	—
zvučna izolacija	35 dB	34 dB	37 dB	38 dB	35 dB
ručka	elegant	elegant	elegant	elegant	elegant
zaptivke	4	4	2	2	4
nagib ugradnje	35-55°	40-55°	90°	90°	15-55°

STAKLOPAKET	U6	U8	R1	R3	G61	O2
STRUKTURA STAKLOPAKETA	6H-18-4HT-18-33.2T	4H-12-4HT-12-4HT-12-4HT	6H-12-33.2SIT	8H-16-4HT-18-33.2SIT	6H-12-33.2SIT	4HO-14-33.1T
TEHNIČKA SPECIFIKACIJA	VISOKO ENERGETSKI EFIKASAN	PASIVNO ZASTAKLJENJE	ZVUČNO IZOLACIONO	ZVUČNO IZOLACIONO	SOLARNA KONTROLA	MUTNO
ZASTAKLJENJE	TROSTRUKO	ČETVOROSTRUKO	DVOSTRUKO	TROSTRUKO	DVOSTRUKO	DVOSTRUKO
UNUTRAŠNJE LAMINIRANO STAKLO	(KLASA P2A)		(KLASA P2A)	(KLASA P2A)	✓	✓



STRANA 12 ORIGINALA

KAKO IZABRATI KROVNI PROZOR

1. KAKO ĆETE STVORITI DOM?

- Izaberite pravi tip prozora koji odgovara vašem okruženju.
- Klasični prozori sa centralnom osovinom okretanja lako se čiste, jer se krilo okreće i omogućava čišćenje spoljne strane iznutra!
- Prozori sa gornjim otvaranjem i okretanjem daju nesmetan pogled na manjoj visini nego standardni prozor sa centralnom osovinom okretanja.

2. KOLIKO DNEVNE SVJETLOSTI VAM TREBA?

Što je prozor ugrađen više, to je veće rasprostiranje prirodne dnevne svjetlosti u prostoriji. Preporučuje se da površina stakla bude najmanje 15-20% ukupne površine poda, radi najboljih rezultata.

3. KOJI STAKLOPAKET IZABRATI?

- Za prozore iznad visine glave treba koristiti laminirano staklo. Ako se staklo razbije, plastična membrana između dva stakla zadržava krhotine.
- Energetski efikasni staklopaketi sa tri stakla obezbjeđuju izuzetnu toplotnu efikasnost i mogu gotovo potpuno otkloniti gubitak toplote.
- Ostali izbori stakla uključuju: tonirano, mutno, reflektujuće i samočisteće staklo.

4. KOLIKI JE NAGIB VAŠEG KROVA?

- Većina krovnih prozora dobro odgovara nagibu krova između 15 i 90 stepeni. Međutim, raspon nagiba ugradnje može se razlikovati za pojedine tipove prozora.
- Za ravne krovove možete izabrati između standardnih izvedbi sa kupolom ili bez kupole.
- Da bi se obezbijedilo otjecanje vode sa staklene površine prozora bez kupole, prozor treba ugraditi pod nagibom od najmanje 2 stepena.

5. VELIKE UŠTEDE UZ VISOKO ENERGETSKI EFIKASNE PROZORE

- Loše izolovan prozor može poništiti efekat dobro izolovanog krova, jer uzrokuje gubitak toplote.
- Standardni prozori sa dvostrukim staklopaketom, toplotno izolovanim staklopaketom i opšivkom mogu biti dovoljni.

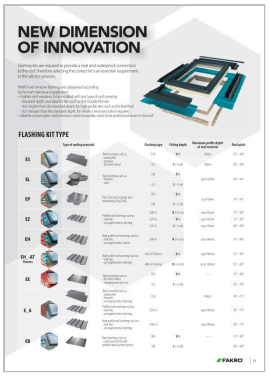
- Za veće performanse treba razmotriti visoko energetski efikasan krovni prozor, posebno projektovan i isporučen sa izolovanom opšivkom.

6. RUČNO ILI ELEKTRIČNO UPRAVLJANJE?

Za upravljanje krovnim prozorima dostupno je električno upravljanje bežičnom tehnologijom – standardno se isporučuje sa motorom ugrađenim u fabrici, daljinskim upravljačem i senzorom kiše. Omogućava da se više prozora i pribora upravlja sa jednog kontrolera. Upotreba Z-Wave protokola omogućava komunikaciju sa drugim „pametnim kućnim uređajima".

7. KAKO SE ZAŠTITITI OD TOPLOTE I SUNČEVE SVJETLOSTI?

- Savremene spoljne tende mogu biti i do osam puta efikasnije od unutrašnjih roletni u pogledu pasivnog smanjenja toplote, a da pritom i dalje propuštaju svjetlost.
- Pored apsorpcije toplote, tende na solarno napajanje automatski se otvaraju po oblačnom vremenu kako bi se povećala raspoloživa svjetlost. Zimi smanjuju buku od kiše i grada i štite prozor od nagomilavanja snijega i lišća.



STRANA 13 ORIGINALA

NOVA DIMENZIJA INOVACIJA

Kompleti opšivki potrebni su da bi se obezbijedio uredan i vodonepropustan spoj sa krovom, pa je izbor odgovarajućeg kompleta bitan uslov u postupku izbora.

Opšivke za krovne prozore FAKRO razvrstane su prema krovnom materijalu i namjeni.

- Omogućavaju ugradnju krovnih prozora uz bilo koju vrstu krovnog pokrivača
  – standardna dubina, idealna za crijep kao što je Double Roman
  – 3 cm viša od standardne dubine, za crijep visokog profila kao što je Bold Roll
  – 3 cm dublja od standardne dubine, tamo gdje je potreban upušten stil
- Idealne za konzervatorske krovne prozore koje je uvijek potrebno postaviti niže u krovu

TIP KOMPLETA OPŠIVKE

	Vrsta krovnog materijala	Tip opšivke	Dubina ugradnje	Maksimalna dubina profila krovnog materijala	Nagib krova
ES	Krovni pokrivači kao što su: – krovna ljepenka – bitumen – ravni lim	ESV	V(0)	10mm	15° – 90°
		ESJ	J (–3 cm)	10mm	20° – 90°
EL	Krovni pokrivači kao što su: – bitumen – škriljac	ELV	V(0)	do 10mm	20° – 90°
		ELJ	J (–3 cm)	do 10mm	20° – 90°

	Vrsta krovnog materijala	Tip opšivke	Dubina ugradnje	Maksimalna dubina profila krovnog materijala	Nagib krova
EP	Krovni pokrivači od ravnog crijepa bez preklapanja (biber crijep, Peg Tiles)	EPV	V(0)	do 16mm	25° – 90°
		EPJ	J (–3 cm)	do 16mm	25° – 90°
EZ	Profilisani krovni pokrivači kao što su: – crijep – valoviti lim	EZN-A	N (+3 cm)	do 45mm	15° – 90°
		EZV-A	V(0)	do 45mm	15° – 90°
		EZJ-A	J (–3 cm)	do 45mm	20° – 90°
EH	Krovni pokrivači visokog profila kao što su: – crijep – valoviti limovi	EHN-A	N (+3 cm)	do 90mm	15° – 90°
EH_-AT Thermo	Krovni pokrivači visokog profila kao što su: – crijep – valoviti lim	EHV-AT Thermo	V(0)	do 90mm	15° – 90°
		EHN-AT Thermo	N (+3 cm)	do 120mm	15° – 90°
EE	Krovni pokrivači kao što su: – ravni lim – stojeći falc od cinka i sl.	EEV	V(0)	—	15° – 90°
		EEJ	J (–3 cm)		20° – 90°
E_A	Krovni pokrivači kao što su: – krovna ljepenka – bitumen – valoviti lim	ESA		10mm	10° – 75°
	Profilisani krovni pokrivači kao što su: – crijep – valoviti lim	EZA-A		do 45mm	10° – 75°
	Krovni pokrivači visokog profila kao što su: – crijep – valoviti lim	EHA-A		do 90mm	10° – 75°

	Vrsta krovnog materijala	Tip opšivke	Dubina ugradnje	Maksimalna dubina profila krovnog materijala	Nagib krova
EB	Krovni pokrivači kao što su: – čelični panel-lim sa prefabrikovanim (sistemskim) spojevima	EBV	V(0)	—	15° – 90°
		EBJ	J (–3 cm)		20° – 90°



STRANA 14 ORIGINALA

FPP-V preSelect MAX
FPU-V preSelect MAX
PPP-V preSelect MAX

VEOMA FUNKCIONALAN

PROZOR SA GORNJIM I ROTACIONIM OTVARANJEM PRESELECT MAX

- Nova generacija prozora sa gornjim i rotacionim otvaranjem ima dva nezavisna mehanizma otvaranja. Krilo se može otvoriti prema spolja odozgo i oko centralne osovine.
- Funkcija otvaranja prema spolja omogućava da se krilo otvori u bilo kom položaju od 0° do 45°, što olakšava prilaz otvorenom prozoru.
- Inovativni sistem okova garantuje potpunu stabilnost krila u obje funkcije otvaranja.
- Način otvaranja može se promijeniti pomoću kliznog prekidača preSelect, postavljenog na bočnom dijelu rama, kojem se pristupa nakon otvaranja prozora.
- Ručka ‘Elegant’ postavljena je u donjem dijelu krila radi lakog rukovanja i mikro-otvaranja u dva stepena.
- Rotaciona funkcija omogućava da se krilo okrene za 180° i koristi se za čišćenje spoljnog stakla.
- Povećana bezbjednost pri upotrebi i otpornost na provalu – sistem topSafe.
- Tehnologija ThermoPro – primijenjena rješenja obezbjeđuju bolji kvalitet i parametre krovnih prozora, čime povećavaju njihovu energetsku efikasnost, obezbjeđuju veću trajnost i odličnu zaptivenost i olakšavaju postupak ugradnje.
- Širok izbor dodatnog pribora.
- Pogodan za nagib krova od 15° - 55°; prozor u posebnoj verziji ugrađuje se pri nagibu krova od 55° - 85°.

STRANA 15 ORIGINALA

FPP-V preSelect MAX

- Automatski ulaz vazduha V40P,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- Drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji.

FPU-V preSelect MAX

- Automatski ulaz vazduha V40P,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- Tri sloja poliuretanskog laka, idealnog za stvaranje trajne i glatke bijele završne obrade na površini rama. Namijenjen prostorijama sa povremeno povećanom vlažnošću (kuhinje, kupatila).

PPP-V preSelect MAX

- Efikasan ulaz vazduha V35,
- Višekomorni bijeli PVC profil sa ojačanim čeličnim jezgrom,
- Dostupan u bijeloj boji, te sa furnirom zlatnog hrasta (PPP/GO MAX) ili bora (PPP/PI MAX),
- Materijal ne upija vlagu, prozor je trajan i otporan na koroziju. Namijenjen prostorijama u kojima povišen nivo vlažnosti ostaje duže vrijeme (kupatila, praonice).

PROZOR SA GORNJIM I ROTACIONIM OTVARANJEM

spoljne dimenzije prozora [cm]	55x98	55x118	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
efektivna površina zastakljenja [m²]	0.29	0.37	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
oznaka veličine	02	16	03	04	14	05	06	07	13	08	09	10	11	12
FPP-V U3 preSelect MAX Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FPU-V U3 preSelect MAX Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PPP-V U3 preSelect MAX Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PPP-V/GO U3 preSelect MAX Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PPP-V/PI U3 preSelect MAX Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Uw – koeficijent prolaza toplote



STRANA 16 ORIGINALA

FTP-V
FTU-V

ENERGETSKI EFIKASAN U STANDARDU

PROZOR SA CENTRALNOM OSOVINOM OKRETANJA I TROSTRUKIM STAKLOPAKETOM

- Popularno rješenje prozora sa šarkom smještenom na sredini visine prozora.
- Udoban način korišćenja prozora, jer se ručka nalazi u donjem dijelu krila. Ručka je opremljena funkcijom mikro-otvaranja u dva stepena.
- Lako čišćenje spoljnog stakla i rukovanje spoljnom tendom pomoću blokirajućeg zasuna krila kada je krilo okrenuto za 180 stepeni.
- Povećana bezbjednost pri upotrebi i otpornost na provalu – sistem topSafe.
- Tehnologija ThermoPro – primijenjena rješenja obezbjeđuju bolji kvalitet i parametre krovnih prozora, čime povećavaju njihovu energetsku efikasnost, obezbjeđuju veću trajnost i odličnu zaptivenost i olakšavaju postupak ugradnje.
- Širok izbor pribora.
- Mogućnost ugradnje električnog upravljanja.
- Ugradnja pri nagibu krova od 15 do 90 stepeni.

STRANA 17 ORIGINALA

FTP-V U4 / FTU-V U4

- Automatski ulaz vazduha V40P,
- Dvokomorni (trostruko zastakljen) visoko energetski efikasan staklopaket **Uw = 1.1 W/m²K** sa standardnom opšivkom,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- Drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji,
- Tri sloja poliuretanskog laka, idealnog za stvaranje trajne i glatke bijele završne obrade na površini rama,
- Namijenjen prostorijama sa povremeno povećanom vlažnošću (kuhinje, kupatila).

FTP-V U5 / FTU-V U5

- Automatski ulaz vazduha V40P,
- Dvokomorni (trostruko zastakljen) visoko energetski efikasan staklopaket U5 **Uw = 0.97 W/m²K** sa standardnom opšivkom,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- Drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji,
- Tri sloja poliuretanskog laka, idealnog za stvaranje trajne i glatke bijele završne obrade na površini rama,
- Namijenjen prostorijama sa povremeno povećanom vlažnošću (kuhinje, kupatila).

FTP-V P5 / FTU-V P5

- Automatski ulaz vazduha V40P,
- Dvokomorni (trostruko zastakljen) visoko energetski efikasan laminirani staklopaket sa slojem za lako održavanje, **Uw = 0.97 W/m²K** sa standardnom opšivkom,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- Drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji,
- Tri sloja poliuretanskog laka, idealnog za stvaranje trajne i glatke bijele završne obrade na površini rama,
- Namijenjen prostorijama sa povremeno povećanom vlažnošću (kuhinje, kupatila).

ROTACIONI PROZORI SA TROSTRUKIM STAKLOPAKETOM

spoljne dimenzije prozora [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
efektivna površina zastakljenja [m²]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
oznaka veličine	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTP-V U4 Uw=1.1 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTU-V U4 Uw=1.1 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTP-V U5 Uw=0.97 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTP-V P5 Uw=0.97 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Uw – koeficijent prolaza toplote

NAPOMENA: Dostupne su i dodatne dimenzije: 55x118, 94x98, 134x118



STRANA 18 ORIGINALA

FTP-V
FTS-V

POPULARAN IZBOR

PROZOR SA CENTRALNOM OSOVINOM OKRETANJA I DVOSTRUKIM STAKLOPAKETOM

- Široko korišćen prozor sa šarkom smještenom na sredini visine prozora.
- Ručka je postavljena u donjem dijelu krila radi lakog rukovanja. Opremljena mikro-otvaranjem u dva stepena.
- Krilo se može okrenuti za 180° i zaključati, što omogućava bezbjedno i lako čišćenje spoljnog stakla.
- Širok izbor dodatnog pribora.
- Mogućnost ugradnje električnog upravljanja.
- Pogodan za nagib krova 15-90°.

STRANA 19 ORIGINALA

FTP-V

NAJPRODAVANIJI

- Automatski ulaz vazduha V40P,
- Sistem topSafe sa povećanom otpornošću na provalu,
- Tehnologija thermoPro povećava trajnost i parametre krovnih prozora,
- Energetski efikasan staklopaket U3,
- Sigurnosni staklopaket P2,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- Drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji.

FTS-V

- Ulaz vazduha V22,
- Energetski efikasan staklopaket U2,
- Borovo drvo, lijepljeno u slojevima, vakuumski impregnirano,
- Drvo premazano ekološkim akrilnim lakom u prirodnoj boji.

PROZOR SA CENTRALNOM OSOVINOM OKRETANJA

spoljne dimenzije prozora [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
efektivna površina zastakljenja [m²]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
oznaka veličine	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTP-V U3 Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTP-V P2 Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTS-V U2 Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Uw – koeficijent prolaza toplote



STRANA 20 ORIGINALA

FTU-V
PTP-V

OTPORAN NA VLAGU

PROZORI SA CENTRALNOM OSOVINOM OKRETANJA ZA PROSTORIJE SA VISOKIM NIVOOM VLAŽNOSTI

- Popularno rješenje prozora sa šarkom smještenom na sredini visine prozora.
- Ručka je postavljena u donjem dijelu krila radi lakog rukovanja i opremljena je mikro-otvaranjem u dva stepena.
- Krilo se može okrenuti za 180° i zaključati, što omogućava bezbjedno i lako čišćenje spoljnog stakla.
- Povećana bezbjednost pri upotrebi i otpornost na provalu – sistem topSafe.
- Tehnologija ThermoPro – primijenjena rješenja obezbjeđuju bolji kvalitet i parametre krovnih prozora, čime povećavaju njihovu energetsku efikasnost, obezbjeđuju veću trajnost i odličnu zaptivenost i olakšavaju postupak ugradnje.
- Širok izbor pribora.
- Mogućnost ugradnje električnog upravljanja.
- Ugradnja pri nagibu krova od 15 do 90 stepeni.

STRANA 21 ORIGINALA

FTU-V

- Automatski ulaz vazduha V40P,
- Energetski efikasan staklopaket U3,
- Energetski efikasan staklopaket U5,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- Tri sloja poliuretanskog laka, idealnog za stvaranje trajne i glatke bijele završne obrade na površini rama. Namijenjen prostorijama sa povremeno povećanom vlažnošću (kuhinje, kupatila).

PTP-V

- Efikasan ulaz vazduha V35,
- Energetski efikasan staklopaket U3,
- Visoko energetski efikasan staklopaket U4,
- Višekomorni PVC profili u bijeloj boji ojačani su čeličnim jezgrima.
- Dostupan je i sa furnirom: zlatni hrast (PTP/GO) i bor (PTP/PI),
- Materijal ne upija vlagu, prozor je trajan i otporan na koroziju. Namijenjen prostorijama u kojima povišen nivo vlažnosti ostaje duže vrijeme (kupatila, praonice).

PROZORI SA CENTRALNOM OSOVINOM OKRETANJA POVEĆANE OTPORNOSTI NA VLAGU

spoljne dimenzije prozora [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
efektivna površina zastakljenja [m²]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
oznaka veličine	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTU-V U3 Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PTP-V U3 Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PTP-V/GO U3 Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PTP-V/PI U3 Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PTP-V U4 Uw=1.1 W/m²K	+	+	+	+	+	+	+	+	-	+	+	+	+	+

Uw – koeficijent prolaza toplote



STRANA 22 ORIGINALA

FTP-V Z-WAVE
FTU-V Z-WAVE

PAMETNI DOM

PROZORI SA CENTRALNOM OSOVINOM OKRETANJA I ELEKTRONSKIM UPRAVLJANJEM Z-WAVE

- Popularno rješenje prozora sa šarkom smještenom na sredini visine prozora.
- Ručka je postavljena u donjem dijelu krila radi lakog rukovanja i opremljena je mikro-otvaranjem u dva stepena.
- Krilo se može okrenuti za 180° i zaključati, što omogućava bezbjedno i lako čišćenje spoljnog stakla.
- Povećana bezbjednost pri upotrebi i otpornost na provalu – sistem topSafe.
- Tehnologija ThermoPro – primijenjena rješenja obezbjeđuju bolji kvalitet i parametre krovnih prozora, čime povećavaju njihovu energetsku efikasnost, obezbjeđuju veću trajnost i odličnu zaptivenost i olakšavaju postupak ugradnje.
- Širok izbor pribora.
- Mogućnost ugradnje električnog upravljanja.
- Ugradnja pri nagibu krova od 15 do 90 stepeni.

STRANA 23 ORIGINALA

FTP-V Z-Wave

- Automatski ulaz vazduha V40P,
- Energetski efikasan staklopaket U3,
- Energetski efikasan staklopaket U5,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- Drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji,
- Poklopac aktuatora u srebrnoj boji.

FTU-V Z-Wave

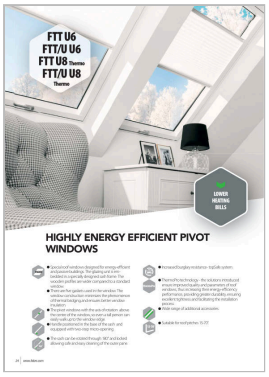
- Automatski ulaz vazduha V40P,

- Energetski efikasan staklopaket U3,
- Energetski efikasan staklopaket U5,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- Tri sloja poliuretanskog laka, idealnog za stvaranje trajne i glatke bijele završne obrade na površini rama. Namijenjen prostorijama sa povremeno povećanom vlažnošću (kuhinje, kupatila)
- Poklopac aktuatora u bijeloj boji.

PROZORI SA ELEKTRONSKIM UPRAVLJANJEM

spoljne dimenzije prozora [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
efektivna površina zastakljenja [m²]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
oznaka veličine	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTP-V U3 Z-Wave Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTU-V U3 Z-Wave Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTP-V U5 Z-Wave Uw=0.97 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTU-V U5 Z-Wave Uw=0.97 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Uw – koeficijent prolaza toplote



STRANA 24 ORIGINALA

FTT U6
FTT/U U6
FTT U8 Thermo
FTT/U U8 Thermo

MANJI RAČUNI ZA GRIJANJE

ROTACIONI PROZORI VISOKE ENERGETSKE EFIKASNOSTI

- Posebni krovni prozori namijenjeni energetski efikasnim i pasivnim objektima. Staklopaket je ugrađen u posebno projektovano krilo. Drveni profili su širi u odnosu na standardni prozor.
- U prozoru se koristi pet zaptivki. Konstrukcija prozora svodi pojavu toplotnih mostova na najmanju mjeru i obezbjeđuje bolju izolaciju prozora.
- Rotacioni prozori sa osovinom rotacije iznad centra prozora, tako da i visoka osoba može lako prići ivici prozora.
- Ručka je postavljena u donjem dijelu krila i opremljena mikro-otvaranjem u dva stepena.
- Krilo se može okrenuti za 180° i zaključati, što omogućava bezbjedno i lako čišćenje spoljnog stakla.
- Povećana otpornost na provalu – sistem topSafe.
- Tehnologija ThermoPro – primijenjena rješenja obezbjeđuju bolji kvalitet i parametre krovnih prozora, čime povećavaju njihovu energetsku efikasnost, obezbjeđuju veću trajnost i odličnu zaptivenost i olakšavaju postupak ugradnje.
- Širok izbor dodatnog pribora.
- Pogodan za nagib krova 15-70°.

STRANA 25 ORIGINALA

FTT U6

- Visoko energetski efikasan staklopaket U6 **Uw = 0.80W/m²K** sa standardnom opšivkom, **Uw=0.71W/m²K** kada je ugrađen sa opšivkom Thermo,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- FTT U6 – drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji,
- FTT/U U6 – tri sloja poliuretanskog laka, idealnog za stvaranje trajne i glatke bijele završne obrade na površini rama. Namijenjen prostorijama sa povremeno povećanom vlažnošću (kuhinje, kupatila).

FTT U8 Thermo

- Pasivni staklopaket U8,
- **Uw = 0.58W/m²K** – najtopliji krovni prozor sa jednim staklopaketom dostupan na tržištu. Isporučuje se sa **opšivkom Thermo** standardno opremljenom kompletom XDK, koji se sastoji od termoizolacionog kompleta XDP i vazdušno nepropusne manžetne XDS,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- FTT U8 – drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji,
- FTT/U U8 – tri sloja poliuretanskog laka, idealnog za stvaranje trajne i glatke bijele završne obrade na površini rama. Namijenjen prostorijama sa povremeno povećanom vlažnošću (kuhinje, kupatila).
- Namijenjen objektima pasivne gradnje, sa certifikatom Passive House,

Oznake na crtežima

THE WARMEST ROOF WINDOW ON THE MARKET	NAJTOPLIJI KROVNI PROZOR NA TRŽIŠTU
WITH SINGLE GLAZING UNIT	SA JEDNIM STAKLOPAKETOM
CERTIFIED COMPONENT	SERTIFIKOVANA KOMPONENTA (Passive House Institute)

PROZORI VISOKE ENERGETSKE EFIKASNOSTI

spoljne dimenzije prozora [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
efektivna površina zastakljenja [m²]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
oznaka veličine	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTT U6 Uw=0.8 W/m²K	-	+	+	+	+	+	+	+	+	+	+	+	+	+
FTT/U U6 Uw=0.8 W/m²K	-	+	+	+	+	+	+	+	+	+	+	+	+	+
FTT U8Thermo Uw=0.58 W/m²K	-	+	+	+	+	+	+	+	+	+	+	+	+	+
FTT/U U8Thermo Uw=0.58 W/m²K	-	+	+	+	+	+	+	+	+	+	+	+	+	+

Uw – koeficijent prolaza toplote



STRANA 26 ORIGINALA

OTPORAN NA VREMENSKE USLOVE

OPŠIVKE ZA KROVNE PROZORE

- Opšivke su neophodne za nepropusno spajanje krovnih prozora sa krovnim pokrivačem. Precizno projektovani detalji opšivke obezbjeđuju trajno i uredno naleganje uz upotrijebljeni krovni pokrivač. Svrha opšivke je da obezbijedi dobro odvođenje vode od prozora i da pruži zaštitu od vjetra.
- FAKRO nudi niz rješenja opšivki, izrađenih od aluminijuma plastificiranog poliesterskim prahom, radi visoke trajnosti i otpornosti na atmosferske uslove.

Standardna boja je smeđa RAL 7022, koja se dobro slaže sa većinom završnih obrada krova.

STRANA 27 ORIGINALA

Standardne opšivke omogućavaju ugradnju prozora u najčešće vrste krovnih pokrivača:

EL_	za ravne krovne pokrivače – bitumenski/škriljni ravni crijep debljine do 10mm
ES_	Za ravne krovne pokrivače debljine do 10mm
EZ_	Za profilisane krovne pokrivače dubine do 45mm
EH_	Za duboko profilisane krovne pokrivače dubine do 90mm
EZV-F	za ravni crijep
EHV-AT Thermo	Obezbjeđuje toplotnu izolaciju iznad površine letava
ELV Thermo	za bitumenske šindre i škriljac debljine do 10mm
EBV-P	za panelni metalni lim

OPŠIVKE ZA ROTACIONE PROZORE I PROZORE SA GORNJIM I ROTACIONIM OTVARANJEM

dimenzije prozora [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
oznaka veličine	01	02	03	04	14	05	06	07	13	08	09	10	11	12
ELV za ravne krovne pokrivače	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ESV za ravne krovne pokrivače	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EZV-A za profilisane krovne pokrivače	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EHN-A za visoko profilisane krovne pokrivače	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EZV-F za ravni crijep	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EHV-AT Thermo* sa dodatnom izolacijom	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ELV Thermo sa dodatnom izolacijom	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EBV-P za panelni metalni lim	+	+	+	+	+	+	+	+	+	+	+	+	+	+

*opšivka za visoko profilisane krovne pokrivače debljine do 90mm

KOMBINOVANE OPŠIVKE

Kombinovane opšivke su gotovi sistemi opšivki za spajanje prozora u grupe: horizontalno, vertikalno i u bloku. Rastojanje između prozora spojenih horizontalno i vertikalno obično iznosi 10cm. FAKRO kombinovani sistem ima sedam modula, kako bi se mogao ostvariti bilo koji raspored koji vam je potreban.

B2/1	Horizontalna kombinacija
B1/2	Vertikalna kombinacija
B2/2	Kombinacija u bloku

NAJČEŠĆI TIPOVI KOMBINOVANIH OPŠIVKI EZV-P ZA TALASASTE KROVNE POKRIVAČE

dimenzije prozora [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
oznaka veličine	01	02	03	04	14	05	06	07	13	08	09	10	11	12
B2/1 KZV-1-P, KZV-3-P	+	+	+	+	+	+	+	+	+	+	+	+	+	+
B1/2 EZV-P, KDV	+	+	+	+	+	+	+	+	+	+	+	+	+	+
B2/2 KZV-1-P, KZV-3-P, KXV-4, KXV-6	+	+	+	+	+	+	+	+	+	+	+	+	+	+



STRANA 28 ORIGINALA

FYP-V proSky
FDY-V Duet proSky

VELIKI I FUNKCIONALAN

PROZOR SA POVIŠENOM OSOVINOM ROTACIJE

- Rotacioni prozori sa osovinom rotacije postavljenom iznad sredine visine prozora, tako da i visoka osoba može lako prići ivici prozora. Donji dio krila ima funkciju gornjeg otvaranja, a gornji dio krila je dodatni izvor dnevne svjetlosti. Krilo otvoreno od 0 do 45° pridržava inovativni noseći mehanizam koji omogućava da se krilo ostavi otvoreno u bilo kom položaju unutar tog raspona.
  Kada se ugrađuje u krovove nagiba 39°-43°, prozor ispunjava zahtjeve standarda DIN 5034-1*, prema kojem donja ivica prozora mora biti postavljena 95cm iznad nivoa poda, a gornja najmanje 220cm.
- Ručka je postavljena u donjem dijelu krila radi lakog rukovanja i mikro-otvaranja u dva stepena.
- Krilo okrenuto za 160 stepeni i zaključano olakšava čišćenje spoljnog stakla.
- Povećana otpornost na provalu – sistem topSafe.
- Tehnologija ThermoPro – primijenjena rješenja obezbjeđuju bolji kvalitet i parametre krovnih prozora, čime povećavaju njihovu energetsku efikasnost, obezbjeđuju veću trajnost i odličnu zaptivenost i olakšavaju postupak ugradnje.
- Širok izbor dodatnog pribora.

* standard koji važi na njemačkom tržištu

STRANA 29 ORIGINALA

FYP-V proSky

- Automatski ulaz vazduha V40P,
- Standardno je opremljen energetski efikasnim staklopaketom U3.
- Prozor sa jednim krilom, prozori su dostupni do visine 206 cm,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- Drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji,
- Pogodan za nagib krova od 20 do 65°

FDY-V Duet proSky

- Automatski ulaz vazduha V40P,
- Standardno je opremljen energetski efikasnim staklopaketom U3.
- Prozor sa dva krila, donje krilo se ne otvara i ima sigurnosno zastakljenje, prozori su dostupni do visine 255 cm,
- Borovo drvo najvišeg kvaliteta, lijepljeno u slojevima, vakuumski impregnirano,
- Drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji,
- Pogodan za nagib krova od 25 do 65°

PROZOR SA POVIŠENOM OSOVINOM ROTACIJE
FYP-V U3 proSky

spoljne dimenzije prozora [cm]	66x118	66x140	78x98	78x118	78x140	78x160	78x180	94x140	94x160	94x180	114x140
efektivna površina zastakljenja [m²]	0.47	0.58	0.47	0.59	0.73	0.85	0.96	0.92	1.07	1.22	1.16
oznaka veličine	04	14	05	06	07	13	40	09	80	41	11
Uw=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+

Uw – koeficijent prolaza toplote

PROZORI SA DONJOM PREČKOM
FDY-V U3 Duet proSky

spoljne dimenzije prozora [cm]	78x186	78x206	94x186	94x206
efektivna površina zastakljenja [m²]	0.73 0.18	0.85 0.18	0.92 0.23	1.07 0.23
oznaka veličine	CA	CB	DA	DB
Uw=1.3 W/m²K	+	+	+	+

OPŠIVKE ZA PROZOR SA POVIŠENOM OSOVINOM ROTACIJE

dimenzije prozora [cm]	66x118	66x140	78x98	78x118	78x140	78x160	78x180	94x140	94x160	94x180	114x140	78x186	78x206	94x186	94x206
oznaka veličine	04	14	05	06	07	13	40	09	80	41	11	CA	CB	DA	DB
ESV za ravne krovne pokrivače	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EZV-A za profilisane krovne pokrivače	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EHN-A za visoko profilisane krovne pokrivače	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+



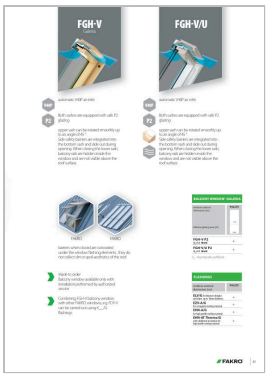
STRANA 30 ORIGINALA

FGH-V Galeria · FGH-V/U Galeria
VEĆI PROSTOR

BALKONSKI PROZOR - GALERIA

- Inovativan, veliki krovni prozor čija krila, kada se otvore, formiraju balkon.
- Gornje krilo sa gornjim otvaranjem otvara se prema gore, dok se donje krilo može nagnuti prema naprijed, što omogućava lak pristup balkonskom udubljenju. Krilo zakrenuto u rasponu 0° - 45° podupire inovativni potporni mehanizam koji omogućava da otvoreno krilo ostane u bilo kom položaju unutar tog raspona.
- Ručka se nalazi u donjem dijelu gornjeg krila i opremljena je mikro-otvaranjem u dva stepena.
- Krilo se može zakrenuti za 180° i blokirati, što omogućava bezbjedno i lako čišćenje spoljnog stakla.
- Povećana otpornost na provalu – sistem topSafe.
- Tehnologija ThermoPro – uvedena rješenja obezbjeđuju bolji kvalitet i parametre krovnih prozora, čime se povećava njihova energetska efikasnost, pruža veća trajnost, obezbjeđuje odlična zaptivenost i olakšava postupak ugradnje.
- Borovo drvo najvišeg kvaliteta, slojevito lijepljeno, vakuumski impregnirano.
- Drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji.

- Tri sloja poliuretanskog laka, idealnog za postizanje trajne i glatke završne obrade u bijeloj boji na površini rama.
  Namijenjeno prostorijama sa povremeno povećanom vlažnošću (kuhinje, kupatila).
- Širok izbor pribora.
- Ugradnja na krovovima nagiba od 35 do 55 stepeni. Preporučuje se ugradnja u krovnu konstrukciju bez zida u obliku slova L.



STRANA 31 ORIGINALA

FGH-V Galeria

- Automatski ulaz vazduha V40P
- Oba krila opremljena su sigurnosnim ostakljenjem P2
- Gornje krilo se može glatko zakretati do ugla od 45°.
  Bočne zaštitne ograde ugrađene su u donje krilo i izvlače se tokom otvaranja. Pri zatvaranju donjeg krila balkonske ograde skrivene su unutar prozora i nijesu vidljive iznad površine krova.

FGH-V/U

- Automatski ulaz vazduha V40P
- Oba krila opremljena su sigurnosnim ostakljenjem P2
- Gornje krilo se može glatko zakretati do ugla od 45°.
  Bočne zaštitne ograde ugrađene su u donje krilo i izvlače se tokom otvaranja. Pri zatvaranju donjeg krila balkonske ograde skrivene su unutar prozora i nijesu vidljive iznad površine krova.

Ograde, kada su zatvorene, skrivene su ispod elemenata opšivke prozora, ne skupljaju prljavštinu i ne narušavaju izgled krova.

- Izrada po narudžbi
  Balkonski prozor dostupan je samo uz ugradnju koju vrši ovlašćeni servis.
- Povezivanje balkonskog prozora FGH-V sa drugim prozorima FAKRO, npr. FDY-V, može se izvesti pomoću opšivki K__/G.

BALKONSKI PROZOR - GALERIA

spoljne dimenzije prozora [cm]	**94x255**
efektivna površina stakla [m²]	1.07 0,60
FGH-V P2 Uw=1.5 W/m²K	+
FGH-V/U P2 Uw=1.5 W/m²K	+

Uw – koeficijent prolaza toplote

OPŠIVKE

spoljne dimenzije prozora [cm]	94x255
ELV/G za bitumenske šindre i škriljac debljine do 10mm	+
EZV-A/G za valoviti krovni materijal	+
EHN-A/G za krovni materijal visokog profila	+
EHN-AT Thermo/G sa dodatnom izolacijom za krovni materijal visokog profila	+



STRANA 32 ORIGINALA

FXP, FXU

SAVRŠENO OSVJETLJENJE

NEPOKRETNI KOMBINOVANI PROZORI

- Prozor koji se ne otvara, ugrađuje se isključivo ispod standardnog krovnog prozora. Namijenjen je vertikalnim kombinacijama. Predstavlja dodatni element koji povećava vidno polje i obezbjeđuje dotok prirodne svjetlosti u prostoriju.
  Sa unutrašnje strane prozor je čeono spojen sa krovnim prozorom. Uska spojna traka poboljšava estetiku i ne ograničava površinu osvjetljenja. Sa spoljne strane prozor dolazi sa posebnim elementom obloge koji se vijcima pričvršćuje za krilo gornjeg krovnog prozora.
- Povećana bezbjednost korišćenja i otpornost na provalu – sistem topSafe.
- Tehnologija thermoPro – uvedena rješenja obezbjeđuju bolji kvalitet i parametre krovnih prozora, čime se povećava njihova energetska efikasnost, pruža veća trajnost, obezbjeđuje odlična zaptivenost i olakšava postupak ugradnje.
- Širok izbor dodatnog pribora.
- Pogodno za nagibe krova od 15° - 90°.



STRANA 33 ORIGINALA

FXP

- Sigurnosni staklopaket P2.
- Dvokomorno, visoko energetski efikasno laminirano ostakljenje sa slojem za lako održavanje (P5).
- Borovo drvo najvišeg kvaliteta, slojevito lijepljeno, vakuumski impregnirano.
- Drvo dvaput premazano ekološkim akrilnim lakom u prirodnoj boji.

FXU

- Sigurnosni staklopaket P2.
- Dvokomorno, visoko energetski efikasno laminirano ostakljenje sa slojem za lako održavanje (P5).
- Borovo drvo najvišeg kvaliteta, slojevito lijepljeno, vakuumski impregnirano.
- Tri sloja poliuretanskog laka, idealnog za postizanje trajne i glatke završne obrade u bijeloj boji na površini rama.
  Namijenjeno prostorijama sa povremeno povećanom vlažnošću (kuhinje, kupatila).

Ugrađuju se sa posebnim opšivkama. Pri izboru odgovarajuće opšivke potrebno je sabrati visinu prozora FX_ i gornjeg prozora. Zatim izaberite najbližu opšivku veće visine za odgovarajući tip krovnog pokrivača. U slučaju upotrebe opšivke Thermo potrebno je kupiti modul KDV-XT.

NEPOKRETNI PROZORI

spoljne dimenzije prozora [cm]	78x95	94x95
oznaka veličine	CU	DU
FXP P2	+	+
FXU P2	+	+
FXP P5	+	+
FXU P5	+	+



STRANA 34 ORIGINALA

BD_, BD_/U, BVP, BVU, BXP, BXU

UNAPRIJEĐENO VIDNO POLJE

VERTIKALNI KOMBINOVANI PROZOR U OBLIKU SLOVA L

- L-prozori su namijenjeni za ugradnju na mjestu gdje se krov spaja sa vertikalnim zidom. Ovi prozori služe za produženje krovnog prozora u zid. Time se znatno povećava količina svjetlosti koja ulazi u prostoriju i vidno polje.
  L-kombinovani prozori mogu se povezati sa krovnim prozorima bilo kog dizajna.
- Standardno su opremljeni sigurnosnim staklopaketom P2 ili P5.
- Prozori su opremljeni okovom sa višetačkastim zaključavanjem.
- Borovo drvo najvišeg kvaliteta, slojevito lijepljeno, vakuumski impregnirano.
- Drvo dvaput premazano ekološkim akrilnim lakom.
- Tri sloja poliuretanskog laka, idealnog za postizanje trajne i glatke završne obrade u bijeloj boji na površini rama.
  Namijenjeno prostorijama sa povremeno povećanom vlažnošću (kuhinje, kupatila).
- Širok izbor pribora.
- Raspon nagiba krova za ugradnju krovnog prozora spojenog sa L-kombinovanim prozorom je od 15 do 55 stepeni.

STRANA 35 ORIGINALA

BDR, BDL, BDR/U, BDL/U

- Sistem otvaranja nagibom i okretanjem.
- Krilo se otvara nagibom od 12cm i okretanjem do 90 stepeni. Upravlja se jednom ručkom koja se nalazi na boku krila. Standardno se isporučuje sa ključem kojim se prozor može zaključati. Otvara se na desnu (BDR) ili lijevu stranu (BDL).

BVP, BVU

- Otvaranje nagibom

- Krilo se otvara nagibom od oko 12 cm. Ručka sa bravom na ključ nalazi se na gornjem dijelu krila.

BXP, BXU

- Ne otvara se

L-PROZOR B_

spoljne dimenzije prozora [cm]	78x60	78x75	78x95	78x115	78x137	94x60	94x75	94x95	94x115	114x60	114x75	114x95	114x115
efektivna površina stakla [m²]	0.25	0.33	0.56	0.57	0.71	0.31	0.42	0.58	0.73	0.40	0.53	0.73	0.92
oznaka veličine	33	81	82	83	84	34	85	86	87	35	89	90	91
BDL P2 (lijevo) BDR P2 (desno)	+	+	+	+	+	-	+	+	+	-	-	+	+
BVP P2	+	+	+	+	+	+	+	+	+	+	+	+	+
BXP P2	+	+	+	+	+	+	+	+	+	+	+	+	+
BDL/U P2 (lijevo) BDR/U P2 (desno)	+	+	+	+	+	-	+	+	+	-	-	+	+
BVU P2	+	+	+	+	+	+	+	+	+	+	+	+	+
BXU P2	+	+	+	+	+	+	+	+	+	+	+	+	+



STRANA 36 ORIGINALA

FUNKCIONALNI PRIBOR ZA KROVNE PROZORE
UGODNO I LIJEPO

PRIBOR ZA KROVNE PROZORE

- FAKRO pribor za krovne prozore objedinjuje funkcionalne i upotrebne karakteristike sa atraktivnim dizajnom.
- Unutrašnji pribor može dati završni dodir svakom krovnom prozoru.
  Širok izbor vrsta, stilova i boja roletni obezbjeđuje potpunu harmoniju sa izabranim dekorom i pomaže u oblikovanju karaktera prostorije.
- Spoljni pribor (tenda i roletna) efikasno štiti od pretjeranog zagrijavanja potkrovlja tokom vrelih ljetnih dana.
- Tačno prilagođavanje pribora krovnim prozorima FAKRO obezbjeđuje njegovu brzu i jednostavnu montažu.
  Originalni FAKRO pribor odlikuju visok kvalitet, inovativna rješenja i estetski izgled.

STRANA 37 ORIGINALA

SPOLJNI PRIBOR

Spoljne tende AMZ

- pruža do 8 puta efikasniju zaštitu u poređenju sa unutrašnjim roletnama za zamračenje
- efikasno zasjenjenje prostorije uz istovremeni pogled prema spolja
- najbolja zaštita od zamorne vrućine

Upravljanje:

- **AMZ** – ručno upravljanje ili pomoću šipke za upravljanje (isporučuje se u pakovanju)
- **AMZ Z-WAVE** sistem, kojim se upravlja daljinskim upravljačem ili zidnim prekidačem
- **AMZ Solar** – upravlja se daljinskim upravljačem

SPOLJNE TENDE ZA ROTACIONE PROZORE (FT, PT); PROZORE SA GORNJIM I ROTACIONIM OTVARANJEM (FP, PP preSelect®)

dimenzije prozora [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
oznaka veličine	01	02	03	04	14	05	06	07	13	08	09	10	11	12
AMZ I I grupa (089, 090)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ II II grupa (092)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ I I grupa (089, 090) (NOVA LINIJA)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ II II grupa (092) (NOVA LINIJA)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ Z-Wave I* I grupa (089, 090)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ Z-Wave II* II grupa (092)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ Solar I** I grupa (089, 090)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ Solar II** II grupa (092)	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Spoljne roletne ARZ

- efikasna zaštita od zamorne vrućine
- zasjenjenje prostorije
- povećana bezbjednost
- povećava osjećaj privatnosti
- zvučna zaštita od spoljne buke

Upravljanje:

- ARZ-H – ručno se upravlja iznutra pomoću kurble (isporučuje se u pakovanju)
- ARZ Z-Wave sistem, kojim se upravlja daljinskim upravljačem ili zidnim prekidačem
- ARZ Solar – upravlja se daljinskim upravljačem, preporučuje se na mjestima gdje nema napajanja od 230V

SPOLJNE ROLETNE: ARZ-H ZA ROTACIONE PROZORE (FT), ARZ Z-WAVE ZA ROTACIONE PROZORE (FT,PT) I ZA PROZORE SA GORNJIM I ROTACIONIM OTVARANJEM (FP, PP preSelect®)

dimenzije prozora [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
oznaka veličine	01	02	03	04	14	05	06	07	13	08	09	10	11	12
ARZ-H	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ARZ Z-Wave*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ARZ Solar**	+	+	+	+	+	+	+	+	+	+	+	+	+	+

* Uređaji za upravljanje i napajanje kupuju se zasebno; detalji su na strani sa Z-Wave elementima električnog upravljanja.

** Komplet uključuje kontroler sa daljinskim upravljačem i baterijom.

Oznake na crtežima

NEW LINE NOVA LINIJA

STRANA 38 ORIGINALA

UNUTRAŠNJI PRIBOR

Venecijaneri AJP

- smanjenje svjetlosti koja ulazi u prostoriju
- regulisanje pravca i količine svjetlosti koja ulazi promjenom ugla lamela

Roletna za zasjenjenje ARP

- zaštita od sunčeve svjetlosti tokom sunčanih dana
- mogućnost blokiranja roletne u bilo kom položaju

Roletne za zamračenje ARF

- veoma dobra zaštita od sunčeve svjetlosti
- mogućnost blokiranja roletne u bilo kom položaju
- djelimična zaštita od sunčeve toplote

Plisirane zavjese APS

- daju mekanu i raspršenu svjetlost u prostoriji
- mogućnost blokiranja zavjese u bilo kom položaju
- sistem odozgo nadolje – jednostavno rukovanje pomoću gornje i donje šipke

Plisirane zavjese APF

- postepeno smanjenje svjetlosti koja ulazi do potpunog zamračenja
- mogućnost blokiranja zavjese u bilo kom položaju
- sistem odozgo nadolje – jednostavno rukovanje pomoću gornjeg i donjeg nosača

Mreža protiv insekata AMS

- zaštita od insekata
- minimalno zasjenjenje prostorije
- može se ugraditi zajedno sa drugim unutrašnjim i spoljnim priborom

UNUTRAŠNJI PRIBOR

dimenzije prozora [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
oznaka veličine	01	02	03	04	14	05	06	07	13	08	09	10	11	12
AJP I I grupa	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AJP II II grupa	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ARP I I grupa	+	+	+	+	+	+	+	+	-	+	+	+	+	+
ARP II II grupa	+	+	+	+	+	+	+	+	-	+	+	+	+	+
ARF I I grupa	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ARF II II grupa	+	+	+	+	+	+	+	+	+	+	+	+	+	+
APS I I grupa	+	+	+	+	+	+	+	+	+	+	+	+	+	+
APS II II grupa	+	+	+	+	+	+	+	+	+	+	+	+	+	+
APF I I grupa	+	+	+	+	+	+	+	+	+	+	+	+	+	+
APF II II grupa	+	+	+	+	+	+	+	+	+	+	+	+	+	+

AMS komercijalna dimenzija	55x170	55x200	66x200	66x240	78x200	78x240	94x200	94x240	114x200	114x240	134x200	134x240
širina otvora obloge [cm]	49.5	49.5	60.5	60.5	72.5	72.5	88.5	88.5	108.5	108.5	128.5	128.5
maksimalna visina otvora obloge [cm]	170	200	200	240	200	240	200	240	200	240	200	240
AMS	+	+	+	+	+	+	+	+	+	+	+	+

STRANA 39 ORIGINALA

PRIBOR ZA PROZORE KOJI SE OTVARAJU

ZST	Teleskopska šipka za upravljanje omogućava korisniku da upravlja prozorima, venecijanerima i drugim roletnama koje se nalaze izvan korisnikovog neposrednog dohvata
ZBB	Ograničivač otvaranja prozora – omogućava bezbjedno otvaranje krila u položaju nagiba do 10cm
ZBL	Estetska prozorska brava ZBL u bijeloj boji, sprječava slučajno otvaranje prozora, ugrađuje se na donjem dijelu prozora

PRIBOR ZA UGRADNJU

FAKRO pribor za ugradnju garantuje brzo i jednostavno spajanje krovnog prozora sa krovnom konstrukcijom. Upotreba originalnog pribora za ugradnju omogućiće pravilnu upotrebu prozora dugi niz godina.

XLC Unutrašnja obloga

- obezbjeđuje pravilnu završnu obradu oko prozora sa unutrašnje strane prostorije. XLC-F za drvene prozore, XLC-P za prozore od aluminijuma i plastike. Donji dio obloge postavlja se vertikalno, a gornji paralelno sa podom, što obezbjeđuje odgovarajuće osvjetljenje i pravilnu cirkulaciju vazduha preko površine stakla.

XDP Izolacioni komplet

- namijenjen za brzo ostvarivanje zaptivene, za vazduh propusne i toplotne izolacije oko prozora koji se ugrađuje.
- komplet se sastoji od membrane propusne za vazduh i toplotnoizolacionog materijala od prirodne vune u obliku vunenih kocki i vunenih pletenica.
- izolacioni komplet XDP zajedno sa vazduhonepropusnom manžetnom XDS čini izolacioni paket XDK

XDP Thermo*

- sastoji se od paropropusne manžetne XWT Plus i izolacione trake.

XDS Vazduhonepropusna opšivka

- pričvršćuje se sa unutrašnje strane i formira vazduhonepropusnu barijeru oko prozora protiv toplog i vlažnog vazduha, jer svaka vlaga na površini izolacije znatno smanjuje njena svojstva toplotne izolacije.

PRIBOR ZA UGRADNJU

dimenzije prozora [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
oznaka veličine	01	02	03	04	14	05	06	07	13	08	09	10	11	12
XLC-F 30 XLC-P 30	+	+	+	+	+	+	+	+	+	+	+	+	+	+
XDP	+	+	+	+	+	+	+	+	+	+	+	+	+	+
XDS	+	+	+	+	+	+	+	+	+	+	+	+	+	+
XDK (XDP+XDS)	+	+	+	+	+	+	+	+	+	+	+	+	+	+

* savjetujemo upotrebu sa opšivkama FAKRO Thermo



STRANA 40 ORIGINALA

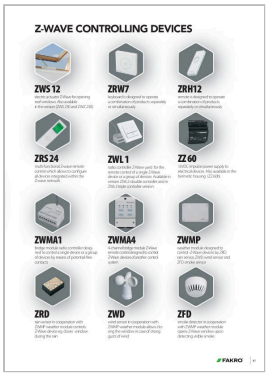
JEDNOSTAVNO ZA KORIŠĆENJE

ELEKTRIČNO UPRAVLJANJE Z-WAVE

- Sistem rješenja za primjenu u inteligentnim zgradama
- Z-Wave je bežični radio protokol koji se koristi za komunikaciju sa kućnim električnim aparatima. Na mrežu se mogu povezati svi električni uređaji koji imaju modul Z-Wave sistema: Z-Wave prozori, standardni prozori opremljeni aktuatorima sa Z-Wave modulom, spoljne roletne ARZ Z-Wave i unutrašnji pribor AJP Z-Wave, ARF Z-Wave i ARP Z-Wave.
- Pored prozora mogu se povezati senzori kiše i vjetra i integrisati sa drugim kućnim električnim aparatima.
- Omogućava stvaranje bežične mreže i upravljanje proizvodima sa Z-Wave modulom pomoću bežične tastature, daljinskog upravljača, mobilnog telefona ili interneta.
- Za ugradnju sistema nijesu potrebne nikakve razvodne table niti komunikacioni kablovi između električnih uređaja, što očigledno smanjuje troškove i vrijeme montaže.
- Z-Wave sistem je jednostavan za instalaciju, lako se proširuje i njime se lako upravlja bez obzira na fazu gradnje objekta.
- FAKRO proizvodi opremljeni Z-Wave modulom sarađuju sa FIBARO elektronikom. Preko FIBARO upravljačke table – Home Center 2, možemo napraviti pametnu kuću kojom se upravlja pomoću aplikacije na pametnom telefonu sa bilo kog mjesta na svijetu.

Oznake na crtežima

WORKS WITH FIBARO	radi sa FIBARO



STRANA 41 ORIGINALA

Z-WAVE UREĐAJI ZA UPRAVLJANJE

ZWS 12	Električni aktuator Z-Wave za otvaranje krovnih prozora. Dostupan je i u verziji (ZWS 230 i ZWZ 230).
ZRW7	Tastatura je namijenjena za upravljanje kombinacijom proizvoda pojedinačno ili istovremeno
ZRH12	Daljinski upravljač je namijenjen za upravljanje kombinacijom proizvoda pojedinačno ili istovremeno
ZRS 24	Višefunkcionalni Z-Wave daljinski upravljač koji omogućava konfigurisanje svih uređaja integrisanih u Z-Wave mrežu
ZWL 1	Radio kontroler Z-Wave koji se koristi za daljinsko upravljanje jednim Z-Wave uređajem ili grupom uređaja. Dostupan je u verziji ZWL2 – dvostruki kontroler i u verziji ZWL3 – trostruki kontroler
ZZ 60	Impulsna jedinica za napajanje 15VDC za električne uređaje. Dostupna je i u hermetičkom kućištu (ZZ 60h)
ZWMA1	Premosni modul – radio kontroler namijenjen za upravljanje jednim uređajem ili grupom uređaja pomoću beznaponskih kontakata

ZWMA4	4-kanalni premosni modul – Z-Wave daljinski upravljač namijenjen za upravljanje Z-Wave uređajima drugog sistema upravljanja
ZWMP	Vremenski modul namijenjen za upravljanje Z-Wave uređajima pomoću senzora kiše ZRD, senzora vjetra ZWD i senzora dima ZFD
ZRD	Senzor kiše u saradnji sa vremenskim modulom ZWMP upravlja Z-Wave uređajem, npr. zatvara prozor tokom kiše
ZWD	Senzor vjetra u saradnji sa vremenskim modulom ZWMP omogućava zatvaranje prozora u slučaju jakih udara vjetra
ZFD	Detektor dima u saradnji sa vremenskim modulom ZWMP otvara Z-Wave prozor pri otkrivanju vidljivog dima



STRANA 42 ORIGINALA

FWP, WS_, WG_, WLI
LAK PRISTUP KROVU

PROZORI ZA PRISTUP KROVU

- Prozori za pristup krovu obezbjeđuju brz, bezbjedan i lak pristup krovu radi konzervacije i potrebnih radova na održavanju. U zavisnosti od vrste prostorije u potkrovlju (nastanjena ili nenastanjena) može se koristiti niz prozora za pristup.
- Univerzalni drveni izlazni prozor FWP omogućava promjenu strane otvaranja; promjenu strane otvaranja vrši kupac tokom postupka ugradnje.
- Fabrički se isporučuje kao krovni izlaz sa desnim otvaranjem, ali se može isporučiti i u verziji sa lijevim otvaranjem.

Oznake na crtežima

Pic. FWP (right)	Slika: FWP (desno)

STRANA 43 ORIGINALA

UNIVERZALNI IZLAZNI PROZOR SA BOČNIM OTVARANJEM

FWP	Borovo drvo najvišeg kvaliteta, slojevito lijepljeno, vakuumski impregnirano. Drvo dvaput premazano ekološkim akrilnim lakom. Ugrađuje se sa standardnim opšivkama prozora FAKRO na 3 dubine ugradnje N, V, J. Može se kombinovati sa drugim prozorima, npr. FTP ili FPP, pomoću standardnih opšivki za kombinacije, npr. KZV. Nagib krova za ugradnju: 15-55 stepeni. Obloga se može izraditi u bilo kojoj boji iz RAL palete. Može se izraditi i od bakra ili titan-cinka.

STANDARDNI PROZOR ZA PRISTUP KROVU ZA NENASTANJENE PROSTORIJE

WS_ Ima konstrukciju sa gornjim otvaranjem, sa polukružnom polikarbonatnom kupolom koja se otvara prema gore do ugla od 180°, što obezbjeđuje lak pristup krovu i efikasno osvjetljenje prostorije. Upotrijebljeni materijal ima povećanu otpornost na vremenske uslove. Pogodno za nagibe krova od 15-60°, isporučuje se sa integrisanom opšivkom koja je kompatibilna sa većinom krovova sa crijepom.

WG_ Prozor za pristup krovu sa konstrukcijom sa gornjim otvaranjem; krilo se otvara prema spolja. Dostupan u dvije verzije:
WGT sa jednostrukim kaljenim staklom 4H,
WGI sa staklopaketom 4H-9-4H i gasnom oprugom,
pogodno za nagibe krova od 15-60°

WLI Prozor za pristup krovu otvara se u stranu, opremljen staklopaketom sa spoljnim i unutrašnjim kaljenim staklom 4H-8-4H. Može se ugraditi u verziji sa lijevim ili desnim otvaranjem. Isporučuje se kompletan sa ograničivačem okretanja koji drži krilo stabilnim i sprječava slučajno zatvaranje.
pogodno za nagibe krova od 15-70°

IZLAZNI PROZOR SA BOČNIM OTVARANJEM FWP U3, P2, U5, P5

dimenzije prozora [cm]	66x78	66x98	66x118	78x98	78x118	94x118	94x98
oznaka veličine	22	03	04	05	06	08	15
FWP U3	+	+	+	+	+	+	+
FWU U3	+	+	+	+	+	+	+
FWP P2	+	+	+	+	+	+	+
FWU P2	+	+	+	+	+	+	+
FWP U5	+	+	+	+	+	+	+
FWU U5	+	+	+	+	+	+	+
FWP P5	+	+	+	+	+	-	+
FWU P5	+	+	+	+	+	-	+

STANDARDNI PROZORI ZA PRISTUP KROVU SA OPŠIVKOM

dimenzije prozora [cm]	54x75	86x86
WSS opšivka za ravne krovne pokrivače	+	+
WSZ opšivka za profilisane krovne pokrivače	+	+
WSH opšivka za krovne pokrivače visokog profila	+	+

dimenzije prozora [cm]	46x55	46x75
WGT integrisan sa univerzalnom opšivkom*	+	+
WGI integrisan sa univerzalnom opšivkom*	+	+

dimenzije prozora [cm]	54x83	86x87
WLI integrisan sa univerzalnom opšivkom*	+	+

*posebno pogodna za krovove sa crijepom



STRANA 44 ORIGINALA

FAKRO zadržava pravo izmjene specifikacija i tehničkih parametara proizvoda bez prethodne najave.

PRODUCT CATALOGUE 2021



30 YEARS HOME SOLUTIONS

FAKRO®

30 YEARS OF HOME SOLUTIONS

The word 'HOME' brings positive connotations as these are often our memories and sometimes dreams. We all at FAKRO think how to make life there always abundant in natural light, healthy and comfortable, simply unique.
Therefore, being faithful to its mission, FAKRO has been manufacturing joinery that stands behind exceptional home solutions for 30 years now.

30 YEARS

HOME SOLUTIONS



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CHANGING YOUR VIEW





The part roof windows play in attic rooms has massively influenced the way we look at interior design. Whether for a home or a commercial project, our huge choice of roof windows can be used in a range of different ways. Our close-grain pine will look sensational for years while our sleek, stylish frames provide a bigger glazing area to let in more light. With all these benefits and more it's not hard to see why FAKRO roof windows become a focal point in their own right and prompt such consistently positive comment.

For those of you looking to achieve the highest levels of Energy Saving, BREEAM, Passive House or "EnerPHit" our triple and quadruple-glazed non-vented FTT range offers an exceptional standard of performance. At the heart of all our products FAKRO provide a high level of security, highly resilient hinges and seals, and a standard of timber treatment which we believe is second to none.

FAKRO uses responsibly sourced timber and as well as natural pine, you can opt for white PU-coated, pine or PVC products, all of which are available in conservation style BBA, IAB and FSC ® certified products together with warranties of 10 years for windows and 20 years for glazing give you peace of mind that the name FAKRO is synonymous with quality.

WHAT MAKES A FAKRO ROOF WINDOW BETTER?

FAKRO roof windows are designed to provide a focal point for any room whether you use them individually or in combinations. Their stylish appearance is matched by the highest standard of manufacturing and finishing which means you can rest assured they will go on looking good for years to come. Our windows offer a perfect combination of style, sustainability, security and long design life. To achieve such high performance involves ongoing refinement and improvement to every roof window that we design.



Premium Close Grained Redwood Timber
The pine we use offers the clearest visual evidence of our roof window quality. Not only does its close grain look stylish, we obtain timber from FSC® certified sources.



Automatic Controlled Ventilation
The FAKRO V40P automatic vent which is installed in FAKRO pine roof windows is activated by changes in atmospheric pressure. It provides the optimum balance of fresh air regardless of weather conditions.



Ease of Installation
Our easy to use "bracket fix" installation system enables windows to be fitted either to rafters or battens and sarking.



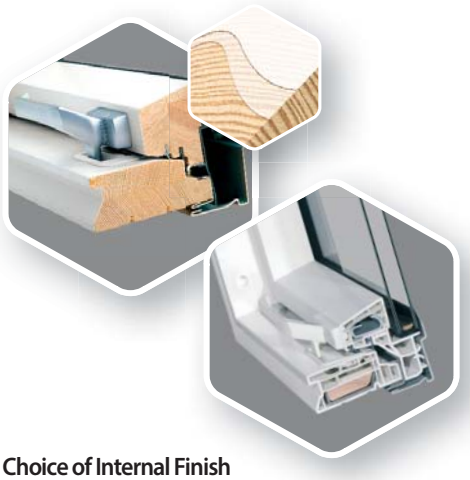
Exceptional Security
FAKRO's TopSafe® system gives confidence and peace of mind that our roof windows offer exceptional burglary resistance. TopSafe provides additional hinge and lock reinforcement to prevent the sash from being forced.

10 year warranty for window

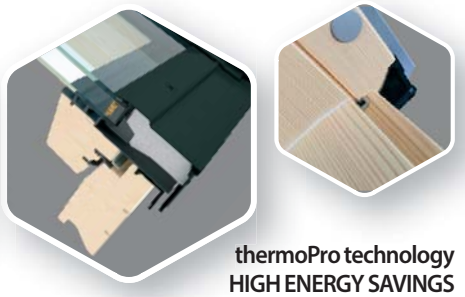
20 year warranty for glazing unit

∞ Lifetime glazing unit hail resistance warranty

Performance Guarantees
Whether buying natural pine, PU-coated pine or PVC, FAKRO offers a 10 year warranty for all windows and a 20 year warranty on glazing units. We also offer a no quibble lifetime warranty against damage by hail stones.



Choice of Internal Finish
FAKRO offers two types of roof window for rooms in which high levels of humidity are created. You have the choice of either white polyurethane-coated pine or PVC in white, golden oak and pine finishes.



thermoPro technology
HIGH ENERGY SAVINGS
What really sets FAKRO windows apart is their low level of heat loss. Unlike some manufacturers who provide U-values just for glazing units, FAKRO provides information for the whole window. When comparing our performance with other products you will see how our non-vented, quadruple glazed FTT U8 Thermo has a single glazing unit area and a U-value of 0.58W/m^{2}K which leads the market.



We Don't Just Do White
FAKRO roof windows can be manufactured in any colour from the RAL classic palette.
That's over 200 colours customers can specify to special order for their chosen projects. Our standard natural pine, white acrylic, PU coated and PVC roof windows can be received from stock within three days.





CERTIFICATES

One of the key factors differentiating manufacturers from one another is certification of products. At FAKRO we continually look for ways to innovate and improve our designs, not just with new roof windows but existing ones. In 2012 this yet again enabled us to set an industry standard as we achieved Passive House certification of our industry leading quadruple-glazed FTT U8 Thermo. The FTT U8 offers an amazing U-value of 0.58 W/m2K and provides the ideal solution for airtight designs.

NBS Plus - FAKRO specification clauses are available via NBS Plus. This enables concise, technically accurate and up-to-date information in relation to our extensive range of roof windows and roofing accessories to be copied and pasted.

In the same way, we led the market by becoming the first roof window manufacturer to secure BBA certification - as long ago as 2002. Today, many more of our products are accredited including our popular ranges of centre pivot, top hung and pivot windows.
This includes products in conservation style and the highly thermally efficient FTT U6 triple-glazed window while, for specifiers and buyers in Ireland we also have Irish Agrément Board (IAB) certification.

FAKRO are the only roof window manufacturer to carry both NSAI & BBA accreditations.

Our roof windows offer scope for you to buy or specify products using timber from sustainable sources; indeed we are the only such manufacturer to offer FSC® certification for the higher quality, close-grain pine which we use. We also design all windows to be stripped down for recycling of all parts which, combined with the use of sustainable timber, shows the extent of our commitment to environmental issues.

CE marking provides a passport that enables a construction product, irrespective of its origin, to be legally placed on the market of all EU member states. Unlike some manufacturers, FAKRO declares full details of performance for all points which make up a CE mark, yet more evidence that our products exceed minimum standards for health, safety and economy of energy.

NEW DIMENSION OF INNOVATION

Innovation is the DNA of FAKRO and the main driving force of the company's development. It's a philosophy of unconventional thinking, thanks to which the new solutions expand functionality and enhance product quality. FAKRO has redefined roof windows by introducing an automatic ventilation flap V40P, the topSafe system which strengthens the construction of the window, or thermoPro technology which increases the quality and parameters of the windows.
By focusing on development and innovation, FAKRO contributes to creating comfortable living conditions for people around the world.

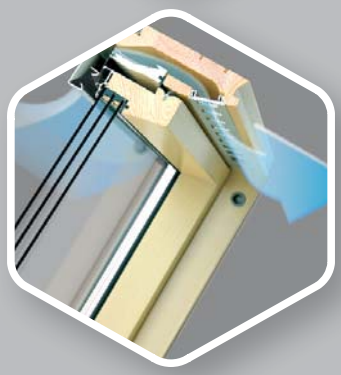


topSafe

SYSTEM TOPSAFE

INCREASED SECURITY

Roof windows have to ensure safety of use and protect against unauthorised access to the room from the roof. The special system of the window structure reinforcement topSafe significantly improves resistance of roof windows to break-in attempts and protects against the sash opening under foot pressure if inadvertently stepped on.
The topSafe system consists of:
- **Innovative**- installation system of specially shaped hinges,
- **Metal** - element strengthening the locking system,
- **Metal** - steel bar, making it difficult to break the window using tools



V40P

AUTOMATIC V40P AIR INLET

Positioned in the top part of the frame. At a pressure difference of 10Pa air inlet capacity is up to 49m^3/h depending on the window width. The capacity rises up to the point where the optimum value is achieved. If the pressure difference continues to grow, the airflow capacity stays on the same stable level. An elastic, pneumatic flap deflects, limiting the amount of inflowing air by reducing the air inlet duct area e.g. when strong gusts of wind appear and in the winter time.



thermoPro

THERMOPRO TECHNOLOGY

The roof windows are manufactured using thermoPro technology. The solutions introduced ensure improved quality and parameters of windows. ThermoPro technology increases energy-efficiency performance, provides greater durability, ensures excellent tightness and facilitates the installation process of roof windows.

BETTER THERMAL INSULATION OF WINDOWS
- Reduced heat loss and lower heating bills
- New version of low emission coating on the glass
- Introduction of insulation inserts in the bottom corners of the sash aimed at enhancing window's energy-efficiency performance

GREATER WINDOW TIGHTNESS IN TERMS OF AIR PERMEABILITY
Windows manufactured using thermoPro technology feature 3rd and 4th tightness class according to EN12207, thus reducing the amount of air penetrating into the room. It is particularly important for mechanical ventilation.

GREATER WOOD DURABILITY THANKS TO WATER DRAINAGE CHANNELS
Special water drainage channels are introduced in the lower corners of the frame to discharge water from condensation and potential leakage caused by, e.g. damaged external aluminium profiles. Wooden profiles are less exposed to the moisture, which adds to their durability.

EASIER INSTALLATION GREATER COMFORT OF WORK
New brackets facilitate installation work and increase the ability to adjust roof windows during their installation.
In addition, the use of Torx screws streamlines the installation process of roof windows.

ROOF WINDOW CONSTRUCTION

TYPES OF WINDOW PROFILES STRUCTURE

Windows should be chosen based on to the humidity level in the room.



Wood with colourless acrylic coating

The basic material for the production of windows is specially selected high quality pinewood, glued in layers. The wood is vacuum impregnated and lacquered with eco-friendly acrylic lacquer in natural colour. Such windows find their destination in most of rooms in the attic.

FAKRO obtains wood from forests with planned forestry economy and uses in the production process eco-friendly materials which do not contain harmful substances.



Wood with white polyurethane layer

For rooms with periodically elevated humidity levels (kitchens, bathrooms) we recommend wooden windows coated with three layers of white polyurethane lacquer to create durable and perfectly smooth surface. Visible parts of the window such as bolts or locking elements are made of plastic in white colour which add to its aesthetics. Handle in silver colour.



Aluminium clad - PVC

Aluminium clad - PVC windows are intended for rooms with increased humidity (bathrooms, bathing salons). Multi-chamber PVC profiles are strengthened from the inside with galvanized steel. The plastic used in the window does not absorb any moisture and the window itself is durable and corrosion free.
The PVC profiles are classified with class A - the highest by EN 12608 standard. Windows are also available in golden oak (GO) and pine (PI) veneer.
Selected windows are made in innovative profile joining technology V-PERFECT.

FSC
www.fsc.org
FSC® C012577

WARRANTY

10 year **WARRANTY** for window

20 year **WARRANTY** for glazing unit and hardware elements*

LIFETIME glazing unit hail resistance warranty

*details to be found in warranty card available at www.**fakro**.com and at Builders Merchants

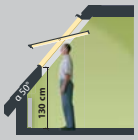
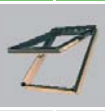
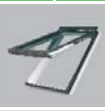
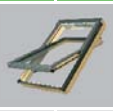
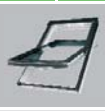
ROOF WINDOW PERFORMANCE AT A GLANCE

Centre pivot roof windows are still the most popular design, with a wide variety of options including highly energy-efficient windows suited to airtight construction, burglar–resistant windows (particularly suited to low pitch roofs and multi-occupancy buildings). All can be rotated through 180° to clean the outer pane from within the room. A choice of natural pine, white acrylic, white PU-coated pine and PVC is available.

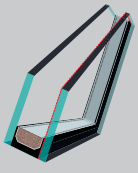
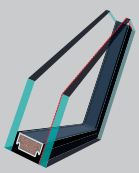
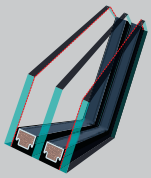
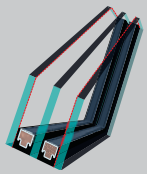
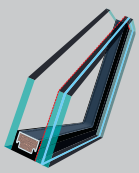
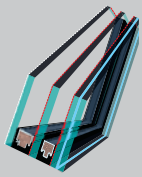
Top hung and pivot dual function roof windows provides total flexibility of use. When open, the top hung function provides an unrestricted field of view at a lower height than a centre pivot window while centre pivot operation enables the sash to be rotated through 180° to clean the outer pane from within the room. A choice of natural pine, white PU-coated pine and PVC is available.

High pivot roof windows function in the same way as a centre pivot window but with the axis of rotation slightly higher in the frame to enable even taller people to walk up to the open window. This enables a greater glazing height to be achieved without adding to the window's width. With scope also to choose a twin sash window in a single frame (the FDY-V proSky Duet window) , this can extend up to 2.35 metres.

STANDARD ROOF WINDOWS

type	TOP HUNG AND PIVOT WINDOWS				CENTRE PIVOT							
												
material	wood		PVC		wood						PVC	
natural pine	FPP-V U3 preSelectMAX	FPP-V U5 preSelectMAX	-	-	FTS-V U2	FTP-V U3	FTP-V U4	FTP-V U5	FTP-V P5	FTP R1	-	-
white polyurethane	FPU-V U3 preSelectMAX	FPU-V U5 preSelectMAX	-	-	-	FTU-V U3	FTU-V U4	FTU-V U5	FTU-V P5	FTU R1	-	-
conservation version:	+	+	+	+	+	+	+	+	+	+	+	+
view												
air inlet	V4GP	V4GP	V35		V10	V4GP	V4GP	V4GP	V4GP	non-vented	V35	
air inlet air flow	up to 49 m^3/h		up to 41 m^3/h		up to 9 m^3/h	up to 49 m^3/h				-	up to 41 m^3/h	
glazing	double	triple	double	triple	double	double	triple	triple	triple	double	double	triple
Ug (EN 673)	1.0 W/m^2K	0.5 W/m^2K	1.0 W/m^2K	0.5 W/m^2K	1.1 W/m^2K	1.0 W/m^2K	0.7 W/m^2K	0.5 W/m^2K	0.5 W/m^2K	1.0 W/m^2K	1.0 W/m^2K	0.5 W/m^2K
Uw	1.3 W/m^2K	1.0 W/m^2K	1.3 W/m^2K	1.1 W/m^2K	1.3 W/m^2K	1.3 W/m^2K	1.1 W/m^2K	0.97 W/m^2K	0.97 W/m^2K	1.3 W/m^2K	1.3 W/m^2K	1.0 W/m^2K
topSafe system	+		+		+						+	
acoustic insulation	32 dB	33 dB	32 dB	34 dB	32 dB	32 dB	33 dB	33 dB	35 dB	39 dB	32 dB	34 dB
handle	elegant		elegant white		standard	elegant					elegant white	
seals	4		4		4						4	
installation pitch	15-55° (85°)		15-55° (85°)		15-90°						15-90°	

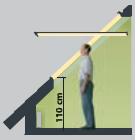
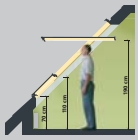
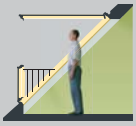
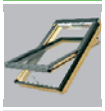
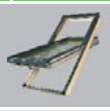
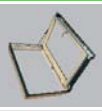
GLAZING UNIT

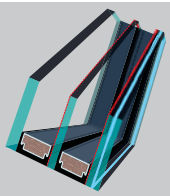
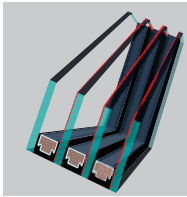
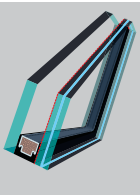
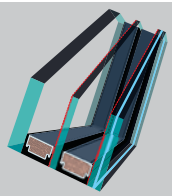
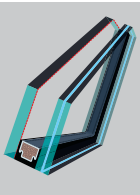
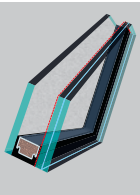
						
GLAZING UNIT	U2	U3	U4	U5	P2	P5
GLAZING STRUCTURE	4H-16-4T	4H-16-4T	4-12-4-12-4	4HT-10-4H-10-4HT	4H-15-33.2T	4HS-10-4HT-8-33.2T
TECHNICAL SPECIFICATION	ENERGY EFFICIENT	ENERGY SAVING	HIGHLY ENERGY EFFICIENT	HIGHLY ENERGY EFFICIENT	ANTI BURGLARY	SAFE
GLAZING	DOUBLE	DOUBLE	TRIPLE	TRIPLE	DOUBLE	TRIPLE
INNER LAMINATED GLASS					(CLASS P2A)	(CLASS P2A)

The Balcony window is the ultimate, modern twin sash window. With the top sash opening as a top hung window, the bottom sash with laminated internal glazing opens from the bottom to reveal built-in balustrades.

L-shaped windows provide scope to take any of FAKRO's standard roof windows into a vertical wall. This gives a much extended field of view and a bigger glazing area which maximises the use of natural daylight.

Conservation roof windows are designed to meet planning requirements in conservation areas or for the sensitive development of older buildings. In addition to all our standard windows being available in conservation style, bespoke commissions are routinely undertaken.

	CENTRE PIVOT				HIGH PIVOT			BALCONY		L-SHAPED		SIDE HUNG
												
wood	wood				wood		wood	wood		wood		wood
FTP-V U3 Z-Wave	FTT U8 Thermo	FTT U6	FTT R3		FYP-V U3 proSky	FYP-V U5 proSky	FDY-V U3 Duet proSky	FGH-V P2 Galeria	FGH-V P5 Galeria	BD_P2, BVP P2, BXP P2	BD_P5, BVP P5, BXP P5	FWP P2
FTU-V U3 Z-Wave	FTT/U U8 Thermo	FTT/U U6	FTT/U R3		FYU-V U3 proSky	FYU-V U5 proSky	FDY-V/U U3 Duet proSky	FGH-V/U P2 Galeria	FGH-V/U P5 Galeria	BD_/UP2, BVU P2, BXU P2	BD_/UP5, BVU P5, BXU P5	FWU P2
+	+	+	+		+	+	+	-	-	-	-	+
												
V4GP	non-vented				V4GP		V4GP	V4GP		—		—
up to 49 m^3/h	-				up to 49 m^3/h		up to 49 m^3/h	up to 49 m^3/h		—		
double	quadruple	triple	triple		double	triple	double	double	triple	double	triple	double
1.0 W/m^2K	0.3 W/m^2K	0.5 W/m^2K	0.5 W/m^2K		1.0 W/m^2K	0.5 W/m^2K	1.0 W/m^2K	1.1 W/m^2K	0.5 W/m^2K	1.1 W/m^2K	0.5 W/m^2K	1.0 W/m^2K
1.3 W/m^2K	0.58 W/m^2K	0.80 W/m^2K	0.81 W/m^2K		1.3 W/m^2K	0.97 W/m^2K	1.3 W/m^2K	1.5 W/m^2K	1.1 W/m^2K	1.3 W/m^2K	0.88 W/m^2K	1.3 W/m^2K
+	+				+		+	+		—		—
32 dB	36 dB	38 dB	42 dB		32 dB	31 dB	32 dB	35 dB	34 dB	37 dB	38 dB	35 dB
–	elegant				elegant		elegant	elegant		elegant		elegant
4	5				4		4	4		2		4
15-90°	15-70°				20-65°		25-65°	35-55°	40-55°	90°		15-55°

					
U6	U8	R1	R3	G61	O2
6H-18-4HT-18-33.2T	4H-12-4HT-12-4HT-12-4HT	6H-12-33.2SIT	8H-16-4HT-18-33.2SIT	6H-12-33.2SIT	4HO-14-33.1T
IGHLY ENERGY EFFICIENT	PASSIVE GLAZING	SOUND REDUCING	SOUND REDUCING	SOLAR CONTROL	OBSCURE
TRIPLE	QUADRUPLE	DOUBLE	TRIPLE	DOUBLE	DOUBLE
(CLASS P2A)		(CLASS P2A)	(CLASS P2A)	✓	✓

HOW TO SELECT A ROOF WINDOW



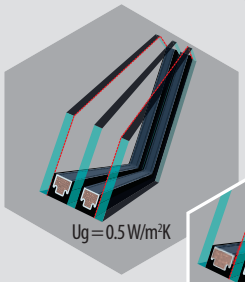
1 HOW WILL YOU MAKE A HOME?

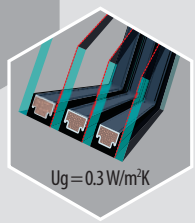
- Choose the correct type of window to suit your environment.
- Classic centre pivot windows make the windows easy to clean as the sash will swivel to allow cleaning of the outside on the inside!
- Top hung and pivot windows give an unrestricted view at a lower height than a standard centre pivot window.



2 HOW MUCH DAYLIGHT DO YOU NEED?

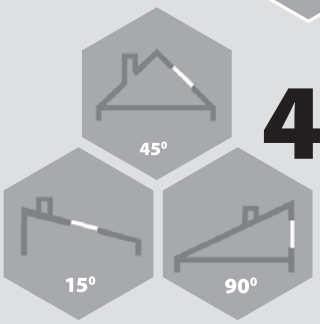
The higher up the window is fitted the greater the spread of natural daylight into the room. It is recommended that the glass area should be at least 15-20% of the total floor area for best results.





3 WHICH GLAZING UNIT TO CHOOSE?

- For windows above head height you should use a laminated glass. If the glass shatters a plastic membrane between the two sheets of glass retain the shards.
- Energy efficient triple-glazed units ensure exceptional thermal efficiency and can almost eliminate heat loss altogether.
- Other glazing choices include; tinted, obscure, reflective and self-cleaning glass.



4 WHAT IS YOUR ROOF PITCH?

- Most roof windows are well suited for a roof pitch of between 15 and 90 degrees. However, the installation pitch range may differ for certain types of windows.
- For flat roofs you can choose between standard domed or non-domed designs.
- To ensure the flow of water from the glass surface of non-domed windows, the window should be installed with a pitch of at least 2 degrees.



5 SUPER SAVINGS WITH HIGHLY ENERGY-EFFICIENT WINDOWS

- A well-insulated roof can be let down by a poorly insulated window which will cause heat loss.
- Standard double glazed windows with a thermally insulated glazing unit and flashing may suffice.
- For increased performance you should consider a highly energy-efficient roof window specially designed and supplied with insulated flashing.



6 MANUAL OR ELECTRIC CONTROL?

Electric control using wireless technology is available to operate your roof windows – supplied as standard with a factory fitted motor, remote control and a rain sensor. Allows multiple windows & accessories to be operated form one controller. The use of the Z-Wave protocol permits communication with other "smart home devices".

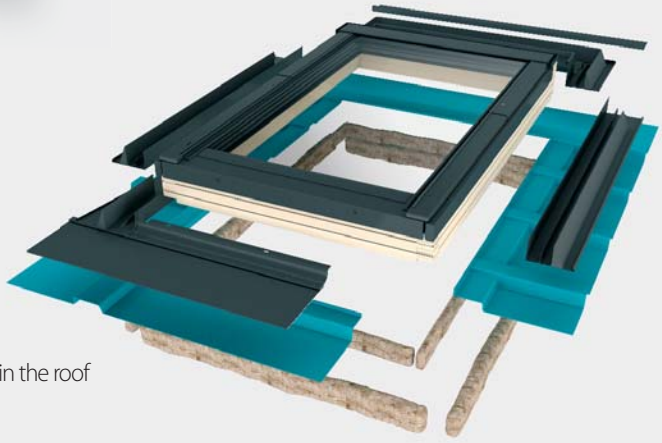


7 HOW TO PROTECT AGAINST HEAT AND SUNLIGHT?

- Contemporary awning blinds can be up to eight times more efficient than internal blinds in terms of passive heat reduction while still allowing light through.
- As well as heat absorption, solar powered awnings open automatically in cloudy weather to increase the available light. In winter they reduce noise from rain and hail and protect the window from an accumulation of snow and leaves.

NEW DIMENSION OF INNOVATION

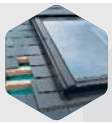
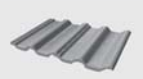
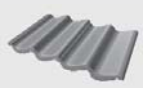
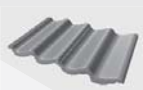
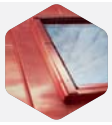
Flashing kits are required to provide a neat and waterproof connection to the roof, therefore selecting the correct kit is an essential requirement in the selction process.



FAKRO roof window flashings are categorised according to the roof material and application.

- Enables roof windows to be installed with any type of roof covering
  - Standard depth and ideal for tiles such as the Double Roman
  - 3cm higher than the standard depth, for high profile tiles such as the Bold Roll
  - 3cm deeper than the standard depth, for where a recessed style is required.
- Ideal for conservation roof windows which invariably need to be positioned lower in the roof

FLASHING KIT TYPE

		Type of roofing material		Flashing type	Fitting depth	Maximum profile depth of roof material	Roof pitch
ES			Roof coverings such as: - roofing felt - bitumen - flat sheet metal	ESV	**V**(0)	10mm	15° – 90°
				ESJ	**J** (–3 cm)	10mm	20° – 90°
EL			Roof coverings such as: - bitumen - slate	ELV	**V**(0)	up to 10mm	20° – 90°
				ELJ	**J** (–3 cm)		
EP			Plain Tile roof coverings non-interlocking (Peg Tiles)	EPV	**V**(0)	up to 16mm	25° – 90°
				EPJ	**J** (–3 cm)		
EZ			Profiled roof coverings such as: - roof tiles - corrugated metal sheeting	EZN-A	**N** (+3 cm)	up to 45mm	15° – 90°
				EZV-A	**V**(0)	up to 45mm	15° – 90°
				EZJ-A	**J** (–3 cm)	up to 45mm	20° – 90°
EH			High profile roof coverings such as: - roof tiles - corrugated metal sheets	EHN-A	**N** (+3 cm)	up to 90mm	15° – 90°
EH_-AT **Thermo**			High profile roof coverings such as: - roof tiles - corrugated metal sheeting	EHV-AT Thermo	**V**(0)	up to 90mm	15° – 90°
				EHN-AT Thermo	**N** (+3 cm)	up to 120mm	15° – 90°
EE			Roof coverings such as: - flat sheet metal - standing seam zinc etc	EEV	**V**(0)	—	15° – 90°
				EEJ	**J** (–3 cm)		20° – 90°
E_A			Roof coverings such as: - roofing felt - bitumen - corrugated metal sheeting	ESA		10mm	10° – 75°
			Profiled roof coverings such as: - roof tiles - corrugated metal sheeting	EZA-A		up to 45mm	10° – 75°
			High profile roof coverings such as: - roof tiles - corrugated metal sheeting	EHA-A		up to 90mm	10° – 75°
EB			Roof coverings such as: -steel panel sheet with prefabricated (system) joints	EBV	**V**(0)	—	15° – 90°
				EBJ	**J** (–3 cm)		20° – 90°



TOP HUNG AND PIVOT WINDOW PRESELECT MAX

- A new generation of top hung and pivot windows come with two independent opening mechanisms. The sash can be opened outwards from the top and via centre pivot.
- The outward opening function enables the sash to be opened in any position from 0° to 45° which allows an easy approach to the opened window.
- Innovatory hardware system guarantees complete sash stability in both opening functions.
- Opening method can be switched using preSelect sliding switch placed in the side part of the frame which is accessible after opening the window.
- Handle 'Elegant' positioned in the base of the sash for easy operation and two-step micro-opening.
- The pivot function enables the sash to be rotated through 180° and is used for cleaning the outer pane.
- Increased operational safety and burglary resistance – topSafe system.
- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.
- Wide range of additional accessories.
- Suitable for pitches from 15° - 55°, window in a special version installed in pitches from 55° - 85°.



V40P automatic air V40P,

highest quality pine wood, glued in layers, vacuum impregnated,

double coated wood with ecological acrylic lacquer in natural colour.

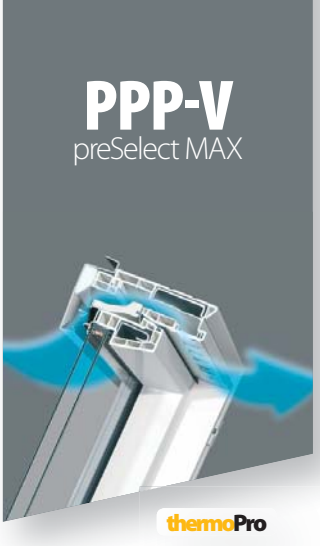


V40P automatic air V40P,

highest quality pine wood, glued in layers, vacuum impregnated,

three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame.

Designed for rooms with periodically increased humidity (kitchens, bathrooms).



V35 efficient air inlet V35,

multi-chamber white PVC profile with reinforced steel core,

GO available in white, golden oak ((PPP/GO MAX)) or pine ((PPP/PI MAX)) veneer,

PI

the material does not absorb moisture, the window is durable and resistant to corrosion.

Designed for rooms where elevated humidity level stays for a long time (bathrooms, laundry rooms).

TOP HUNG AND PIVOT WINDOW

windows external dimensions [cm]	55x98	55x118	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m^2]	0.29	0.37	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	02	16	03	04	14	05	06	07	13	08	09	10	11	12
FPP-V U3 preSelect MAX U_w=1.3 W/m^2K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FPU-V U3 preSelect MAX U_w=1.3 W/m^2K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PPP-V U3 preSelect MAX U_w=1.3 W/m^2K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PPP-V/GO U3 preSelect MAX U_w=1.3 W/m^2K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PPP-V/PI U3 preSelect MAX U_w=1.3 W/m^2K	+	+	+	+	+	+	+	+	+	+	+	+	+	+

U_w - heat transfer coefficient



FTP-V
FTU-V

ENERGY-EFFICIENT AS STANDARD

CENTRE PIVOT WINDOW WITH TRIPLE GLAZING UNIT

- A popular design of windows with a hinge located in the middle of the window height.
- Convenient way to use the window as the handle is located at the bottom of the sash. The handle is equipped with a two step micro--opening facilty.
- Easy cleaning of the outer pane and operating the awning blind with the use of blocking sash bolt when rotated through 180 degrees.
- Increased operational safety and burglary resistance topSafe system.
- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.
- A wide range of accessories.
- Possibility to install electrical control.
- Installation in roof pitches from 15 to 90 degrees.



V40P automatic V40P air-inlet,

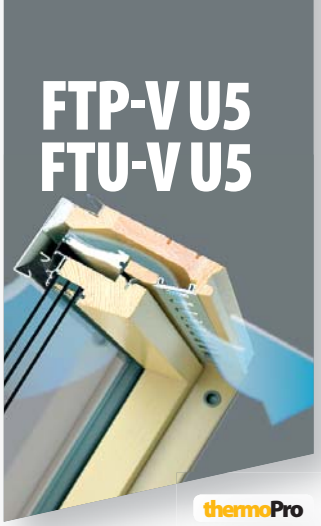
U4 two chamber, (triple glazed) highly energy-efficient glazing **U_w = 1.1 W/m²K** with standard flashing,

highest quality pine wood, glued in layers, vacuum impregnated,

double coated wood with ecological acrylic lacquer in natural colour,

three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame,

Designed for rooms with periodically increased humidity (kitchens, bathrooms).



V40P automatic V40P air-inlet,

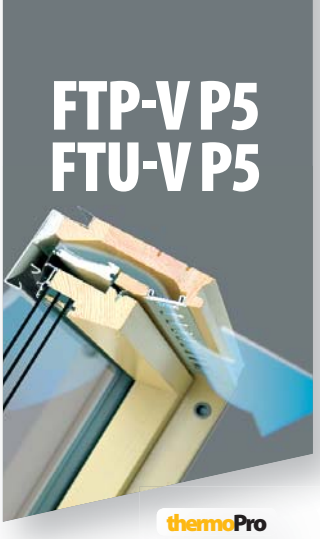
U5 two chamber, (triple glazed) highly energy-efficient U5 glazing **U_w = 0.97 W/m²K** with standard flashing,

highest quality pine wood, glued in layers, vacuum impregnated,

double coated wood with ecological acrylic lacquer in natural colour,

three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame,

Designed for rooms with periodically increased humidity (kitchens, bathrooms).



V40P automatic V40P air-inlet,

P5 two chamber, (triple glazed) highly energy-efficient laminated glazing with easy maintenance layer, **U_w = 0.97 W/m²K** with standard flashing,

highest quality pine wood, glued in layers, vacuum impregnated,

double coated wood with ecological acrylic lacquer in natural colour,

three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame,

Designed for rooms with periodically increased humidity (kitchens, bathrooms).

PIVOT WINDOWS IN TRIPLE GLAZING UNIT

windows external dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m²]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTP-V U4 U_w=1.1 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTU-V U4 U_w=1.1 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTP-V U5 U_w=0.97 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTP-V P5 U_w=0.97 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+

U_w - heat transfer coefficient

NOTE: *Additional sizes also available: 55x118, 94x98, 134x118*



FTP-V
FTS-V

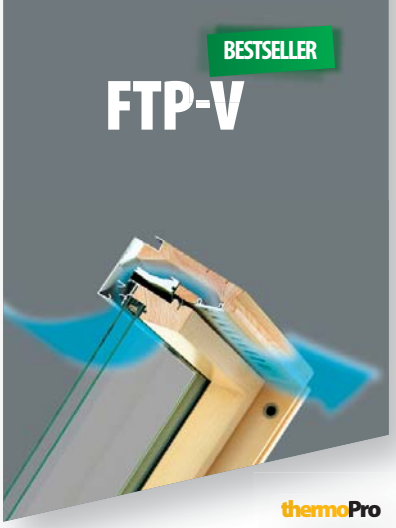
A POPULAR CHOICE

CENTRE PIVOT WINDOW WITH DOUBLE GLAZING UNIT

- Widely used window with the hinge situated in the middle of the window height.
- Handle positioned in the base of the sash for easy operation.
  Equipped with two step micro-opening.
- The sash can be rotated through 180° and locked allowing safe and easy cleaning of the outer pane.
- Wide range of additional accessories.
- The possibility of installing electric control.
- Suitable for roof pitches 15-90°.

BESTSELLER

FTP-V



thermoPro

- V40P — automatic V40P air-inlet,
- topSafe system with increased burglary resistance,
- thermoPro — thermoPro technology increases durability and roof windows parameters,
- U3 — U3 energy-efficient glazing unit,
- P2 — safe glazing unit P2,
- highest quality pine wood, glued in layers, vacuum impregnated,
- double coated wood with ecological acrylic lacquer in natural colour.

FTS-V



- V22 — air-inlet V22,
- U2 — energy-efficient glazing unit U2,
- pine wood, glued in layers, vacuum impregnated,
- wood coated with ecological acrylic lacquer in natural colour.

CENTRE PIVOT WINDOW

windows external dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m²]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTP-V U3 U_w=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTP-V P2 U_w=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTS-V U2 U_w=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+

U_w -heat transfer coefficient



FTU-V
PTP-V

RESISTANT TO HUMIDITY

CENTRE PIVOT WINDOWS FOR ROOMS WITH HIGH LEVELS OF HUMIDITY

- A popular design of windows with a hinge located in the middle of the window height.
- Handle positioned in the base of the sash for easy operation and equipped with two-step micro--opening.
- The sash can be rotated through 180° and locked allowing safe and easy cleaning of the outer pane.
- Increased operational safety and burglary resistance topSafe system.
- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.
- A wide range of accessories.
- Possibility to install electrical control.
- Installation in roof pitches from 15 to 90 degrees.

FTU-V



V40P automatic V40P air-inlet,

U3 energy-efficient glazing unit U3,

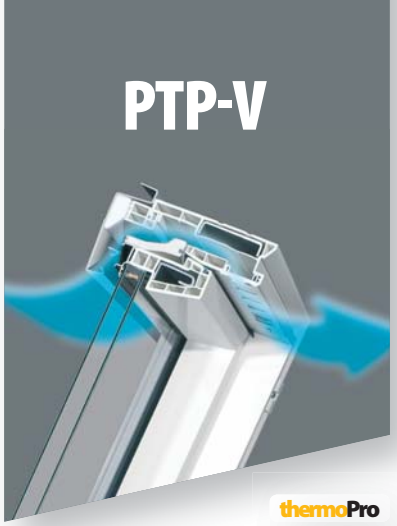
U5 energy-efficient glazing unit U5,

highest quality pine wood, glued in layers, vacuum impregnated,

three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame.

Designed for rooms with periodically increased humidity (kitchens, bathrooms).

PTP-V



V35 efficient air inlet V35,

U3 energy-efficient glazing unit U3,

U4 highly energy-efficient glazing unit U4,

Multi-chamber PVC profiles in white are re-inforced with steel cores.

GO PI Available as well in:
- golden oak (PTP/GO) and pine (PTP/PI) veneer,

the material does not absorb moisture, the window is durable and resistant to corrosion. Designed for rooms where elevated humidity level stays for a long time (bathrooms, laundry rooms).

CENTER PIVOT WINDOWS WITH INCREASED RESISTANCE TO MOISTURE

windows external dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m²]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTU-V U3 U_w=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PTP-V U3 U_w=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PTP-V/GO U3 U_w=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PTP-V/PI U3 U_w=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PTP-V U4 U_w=1.1 W/m²K	+	+	+	+	+	+	+	+	-	+	+	+	+	+

U_w - heat transfer coefficient



FTP-V Z-WAVE
FTU-V Z-WAVE

INTELLIGENT HOME

ELECTRONICALLY CONTROLLED Z-WAVE CENTRE PIVOT WINDOWS

- A popular design of windows with a hinge located in the middle of the window height.
- Handle positioned in the base of the sash for easy operation and equipped with two-step micro--opening.
- The sash can be rotated through 180° and locked allowing safe and easy cleaning of the outer pane.
- Increased operational safety and burglary resistance topSafe system.
- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.
- A wide range of accessories.
- Possibility to install electrical control.
- Installation in roof pitches from 15 to 90 degrees.

FTP-V Z-Wave



- automatic V40P air-inlet,
- energy-efficient glazing unit U3,
- energy-efficient glazing unit U5,
- highest quality pine wood, glued in layers, vacuum impregnated,
- double coated wood with ecological acrylic lacquer in natural colour
- actuator cover in silver colour.

FTU-V Z-Wave



- automatic V40P air-inlet,
- energy-efficient glazing unit U3,
- energy-efficient glazing unit U5,
- highest quality pine wood, glued in layers, vacuum impregnated,
- three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame. Designed for rooms with periodically increased humidity (kitchens, bathrooms)
- actuator cover in white colour.

ELECTRONICALLY CONTROLLED WINDOWS

windows external dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m^2]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTP-V U3 Z-Wave U_w=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTU-V U3 Z-Wave U_w=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTP-V U5 Z-Wave U_w=0.97 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTU-V U5 Z-Wave U_w=0.97 W/m²K	+	+	+	+	+	+	+	+	+	+	+	+	+	+

U_w - heat transfer coefficient



FTT U6
FTT/U U6
FTT U8 Thermo
FTT/U U8 Thermo

LOWER HEATING BILLS

HIGHLY ENERGY EFFICIENT PIVOT WINDOWS

- Special roof windows designed for energy-efficient and passive buildings. The glazing unit is embedded in a specially designed sash frame. The wooden profiles are wider compared to a standard window.
- There are five gaskets used in the window. The window construction minimizes the phenomenon of thermal bridging and ensures better window insulation.
- The pivot windows with the axis of rotation above the centre of the window, so even a tall person can easily walk up to the window edge.
- Handle positioned in the base of the sash and equipped with two-step micro-opening.
- The sash can be rotated through 180° and locked allowing safe and easy cleaning of the outer pane.
- Increased burglary resistance- topSafe system.
- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.
- Wide range of additional accessories.
- Suitable for roof pitches 15-70°.





U6

highly energy-efficient glazing unit U6 **U_w = 0.80W/m²K** with standard flashing,
U_w=0.71W/m²K when installed with Thermo flashing,

highest quality pine wood, glued in layers, vacuum impregnated,

FTT U6 - double coated wood with ecological acrylic lacquer in natural colour,

FTT/U U6 - three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame. Designed for rooms with periodically increased humidity (kitchens, bathrooms).

U8

passive U8 glazing unit,

U_w = 0.58W/m²K the warmest roof window with a single glazing unit available on the market .
Supplied with **Thermo flashing**

as standard equipped with XDK set, which consists of thermo-insulating XDP kit and air-tight XDS collar,

highest quality pine wood, glued in layers, vacuum impregnated,

FTT U8 - double coated wood with ecological acrylic lacquer in natural colour,

FTT/U U8 - three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame. Designed for rooms with periodically increased humidity (kitchens, bathrooms).

phB CERTIFIED COMPONENT Passive House Institute

Designed for passive house buildings, Passive House certified,

HIGHLY ENERGY EFFICIENT WINDOWS

windows external dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m²]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTT U6 U_w=0.8 W/m²K	-	+	+	+	+	+	+	+	+	+	+	+	+	+
FTT/U U6 U_w=0.8 W/m²K	-	+	+	+	+	+	+	+	+	+	+	+	+	+
FTT U8Thermo U_w=0.58 W/m²K	-	+	+	+	+	+	+	+	+	+	+	+	+	+
FTT/U U8Thermo U_w=0.58 W/m²K	-	+	+	+	+	+	+	+	+	+	+	+	+	+

U_w - heat transfer coefficient



WEATHERTIGHT

FLASHINGS FOR ROOF WINDOWS

- Flashings are essential for tight connection of roof windows with roofing material. Precisely designed flashing details ensure a durable and neat fit with the roofing material used. The purpose of flashing is to ensure good drainage away from the window and to provide protection from the wind.
- FAKRO offers a range of flashing solutions, manufactured in polyester powder coated aluminium to give high durabilty and resistance to atmospheric conditions. The standard colour is brown RAL 7022, which matches well with most roofing finishes.

Standard flashings allow window to be installed in the most popular types of roofing materials:



EL_
for flat roof coverings bitumen/ slate plain tiles up to 10mm thick



ES_
For flat roof coverings up to 10mm thickness



EZ_
For profiled roof coverings up to 45mm depth



EH_
For deeply profiled roof coverings up to 90mm depth



EZV-F
for flat roof tiles



EHV-AT Thermo
Provides thermal insulation above the surface of the battens



ELV Thermo
for bitumen shingles and slates up to 10mm thickness



EBV-P
for panel metal sheet

FLASHINGS FOR PIVOT WINDOWS, TOP HUNG AND PIVOT WINDOWS

windows dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
ELV for flat roof coverings	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ESV for flat roof coverings	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EZV-A For profiled roof coverings	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EHN-A for high profiled roof coverings	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EZV-F for flat roof tiles	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EHV-AT Thermo* with additional insulation	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ELV Thermo with additional insulation	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EBV-P for panel metal sheet	+	+	+	+	+	+	+	+	+	+	+	+	+	+

*flashing for high profiled roof coverings up to 90mm thickness)

COMBINATION FLASHINGS

The combination flashing are ready made flashing systems for joining windows in groups: horizontally, vertically and in a block.
The distance between windows joined horizontally and vertically is normally 10cm.There are seven modules in the FAKRO combination system, to cater for any layout you may require.



B2/1
Horizontal combination



B1/2
Vertical combination



B2/2
Block combination

THE MOST POPULAR TYPES OF COMBINATION FLASHINGS EZV-P FOR CORRUGATED ROOFING MATERIALS

windows dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
B2/1 KZV-1-P, KZV-3-P	+	+	+	+	+	+	+	+	+	+	+	+	+	+
B1/2 EZV-P, KDV	+	+	+	+	+	+	+	+	+	+	+	+	+	+
B2/2 KZV-1-P, KZV-3-P, KXV-4, KXV-6	+	+	+	+	+	+	+	+	+	+	+	+	+	+



FYP-V
proSky

FDY-V
Duet proSky

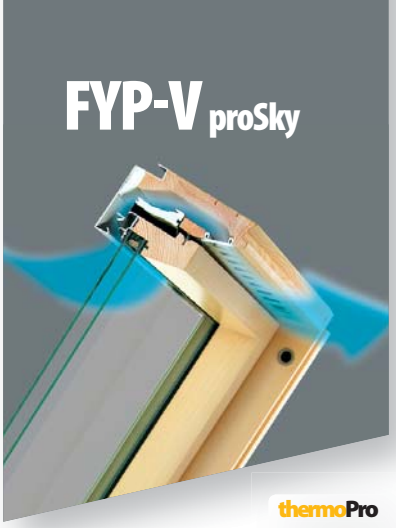
LARGE AND FUNCTIONAL

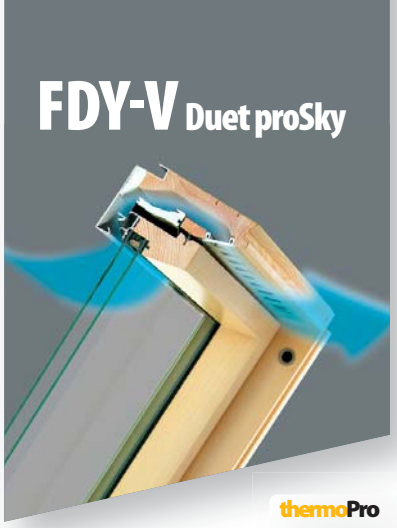
WINDOW WITH RAISED AXIS OF ROTATION

- Pivot windows with axis of rotation placed above the centre of the window height, so even a tall person can easily walk up to the window edge. The lower part of the sash fulfils a top hung function and the upper part part of the sash is an additional source of daylight. The sash when opened from 0 to 45 ° is supported by an innovative supporting mechanism enabling to leave the sash open in any position within this range.
  When installed in roofs with pitches 39°- 43° the window satisfies the requirements of DIN 5034-1* standard, according to which the bottom window edge has to be placed 95cm above the floor level and the top minimum 220cm.
- Handle positioned in the base of the sash for easy operation and two-step micro-opening.

* standard valid for the German market

- The sash rotated by 160 degrees and locked facilitates outer glass cleaning.
- Increased burglary resistance – topSafe system.
- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.
- Wide range of additional accessories.





V40P automatic V40P air-inlet

U3 As standard equipped with energy--efficient glazing U3.

206 cm single sash window, windows available up to height 206 cm,

highest quality pine wood, glued in layers, vacuum impregnated,

double coated wood with ecological acrylic lacquer in natural colour

20-65° suitable for pitches between 20 to 65°

V40P automatic V40P air-inlet

U3 As standard equipped with energy--efficient glazing U3.

<255 cm double sash window, non-opening bottom sash with safe glazing, windows available up to height of 255 cm,

highest quality pine wood, glued in layers, vacuum impregnated,

double coated wood with ecological acrylic lacquer in natural colour

25-65° suitable for pitches between 25 to 65°

WINDOW WITH RAISED AXIS OF ROTATION FYP-V U3 proSky

windows external dimensions [cm]	66x118	66x140	78x98	78x118	78x140	78x160	78x180	94x140	94x160	94x180	114x140
effective glazing area [m²]	0.47	0.58	0.47	0.59	0.73	0.85	0.96	0.92	1.07	1.22	1.16
size symbol	04	14	05	06	07	13	40	09	80	41	11
U_w=1.3 W/m²K	+	+	+	+	+	+	+	+	+	+	+

WINDOWS WITH LOWER TRANSOM FDY-V U3 Duet proSky

78x186	78x206	94x186	94x206
0.73 / 0.18	0.85 / 0.18	0.92 / 0.23	1.07 / 0.23
CA	CB	DA	DB
+	+	+	+

U_w - heat transfer coefficient

FLASHINGS FOR WINDOW WITH RAISED AXIS OF ROTATION

windows dimensions [cm] / size symbol	66x118 04	66x140 14	78x98 05	78x118 06	78x140 07	78x160 13	78x180 40	94x140 09	94x160 80	94x180 41	114x140 11
ESV for flat roof coverings	+	+	+	+	+	+	+	+	+	+	+
EZV-A for profiled roof coverings	+	+	+	+	+	+	+	+	+	+	+
EHN-A for high profiled roof coverings	+	+	+	+	+	+	+	+	+	+	+

78x186 CA	78x206 CB	94x186 DA	94x206 DB
+	+	+	+
+	+	+	+
+	+	+	+



BALCONY WINDOW - GALERIA

- An innovative, large roof window whose sashes when opened create a balcony.
- The upper top hung sash opens upwards, while the lower sash can be tilted forwards, allowing easy access to the balcony recess. The sash when rotated through 0° - 45° is supported by an innovative supporting mechanism which allows leaving the open sash in any position within this range.
- Handle positioned in the base of of the upper sash and equipped with two-step micro-opening.
- The sash can be rotated through 180° and locked allowing safe and easy cleaning of the outer pane.
- Increased burglary resistance – topSafe system.
- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.

- Highest quality pine wood, glued in layers, vacuum impregnated.
- Double coated wood with ecological acrylic lacquer in natural colour.
- Three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame.
  Designed for rooms with periodically increased humidity (kitchens, bathrooms)
- A wide range of accessories.
- Installation in roof pitches between 35 and 55 degrees. Installation in a roof structure without L-shaped wall is recommended.



automatic V40P air-inlet

Both sashes are equipped with safe P2 glazing

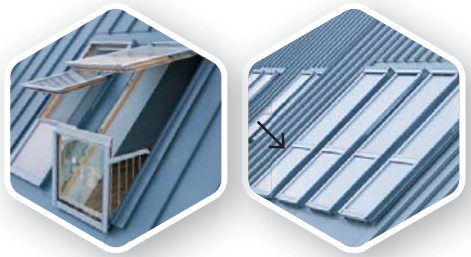
upper sash can be rotated smoothly up to an angle of 45 °.
Side safety barriers are integrated into the bottom sash and slide out during opening. When closing the lower sash, balcony rails are hidden inside the window and are not visible above the roof surface.



automatic V40P air-inlet

Both sashes are equipped with safe P2 glazing

upper sash can be rotated smoothly up to an angle of 45 °.
Side safety barriers are integrated into the bottom sash and slide out during opening. When closing the lower sash, balcony rails are hidden inside the window and are not visible above the roof surface.



FAKRO FAKRO

barriers when closed are concealed under the window flashing elements , they do not collect dirt or spoil aesthetics of the roof.

Made to order
Balcony window available only with installation performed by authorized service.

Combining FGH-V balcony window with other FAKRO windows, e.g. FDY-V can be carried out using K__/G flashings.

BALCONY WINDOW -GALERIA

windows external dimensions [cm]	94x255
effective glazing area [m²]	1.07 / 0,60
FGH-V P2 U_w=1.5 W/m²K	+
FGH-V/U P2 U_w=1.5 W/m²K	+

U_w - heat transfer coefficient

FLASHINGS

windows external dimensions [cm]	94x255
ELV/G for bitumen shingles and slates up to 10mm thickness	+
EZV-A/G for corrugated roofing material	+
EHN-A/G for high profile roofing material	+
EHN-AT Thermo/G with additional insulation for high profile roofing material	+



FXP
FXU

PERFECT ILLUMINATION

NON-OPENING COMBINATION WINDOWS

- Non-opening window installed exclusively beneath a standard roof window.
  Designed for vertical combinations. It constitutes an additional element increasing field of view and securing ingress of natural light to the room.
  The window from the inside is butt joined with a roof window. A narrow connecting strip enhances aesthetics and does not limit illumination area. From the outside the window comes with a special cladding element which is screwed to the sash in the upper roof window.

- Increased operational safety and burglary resistance – topSafe system.
- thermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.
- Wide range of additional accessories.
- Suitable for pitches from 15° - 90°.





P2 safe glazing unit P2,

P5 two chamber, highly energy-efficient laminated glazing with easy maintenance layer

highest quality pine wood, glued in layers, vacuum impregnated,

double coated wood with ecological acrylic lacquer in natural colour

P2 safe glazing unit P2,

P5 two chamber, highly energy-efficient laminated glazing with easy maintenance layer

highest quality pine wood, glued in layers, vacuum impregnated,

three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame.

Designed for rooms with periodically increased humidity (kitchens, bathrooms).

NON-OPENING WINDOWS		
windows external dimensions [cm]	78x95	94x95
size symbol	CU	DU
FXP P2	+	+
FXU P2	+	+
FXP P5	+	+
FXU P5	+	+

Installed with special flashings. When choosing appropriate flashing it is required to add up the height of FX_ window and the upper window. Then choose the nearest flashing of greater height to proper roof covering type. In case of using Thermo flashing it is required to purchase KDV-XT module.



BD_,BD_/U
BVP, BVU
BXP, BXU

ENHANCED FIELD OF VIEW

L-SHAPE VERTICAL COMBINTION WINDOW

- The L-shaped windows are designed to be installed where the roof meets a vertical wall. These windows serve to extend the roof window into the wall. This results in the amount of light entering the room and the field of view being greatly increased.
  The L-shaped combination windows can be combined with roof windows of any design.
- As standard equipped with safety glazing unit P2 or P5.
- Windows equipped with multi-point locking fittings.

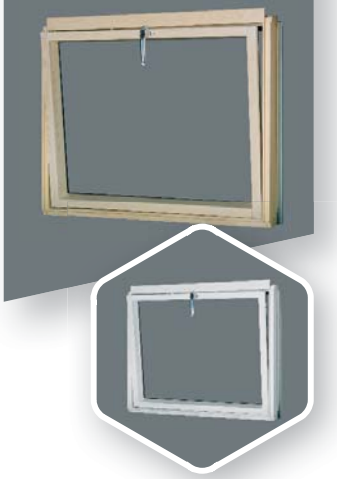
- The highest quality pine wood, glued in layers, vacuum impregnated.
- Double coated wood with ecological acrylic lacquer.
- Three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame. Designed for rooms with periodically increased humidity (kitchens, bathrooms)
- A wide range of accessories.
- The roof window installation range joined with L-shaped combination window is 15 to 55 degrees.

BDR, BDL
BDR/U, BDL/U



- tilt and turn opening system.
- the sash opened by tilting 12cm and turned to 90 degrees. Operated by one handle located on the side of the sash. As standard comes with a key, by which you can lock the window. Opened to the right (BDR) or left side (BDL).

BVP
BVU



- tilt opening
- the sash opened by tilting about 12 cm. The handle with key lock is situated on the upper part of the sash.

BXP
BXU



- non-openining

L-SHAPED WINDOW B_

windows external dimensions [cm]	78x60	78x75	78x95	78x115	78x137	94x60	94x75	94x95	94x115	114x60	114x75	114x95	114x115
effective glazing area [m²]	0.25	0.33	0.56	0.57	0.71	0.31	0.42	0.58	0.73	0.40	0.53	0.73	0.92
size symbol	33	81	82	83	84	34	85	86	87	35	89	90	91
BDL P2 (left) **BDR P2** (right)	+	+	+	+	+	-	+	+	+	-	-	+	+
BVP P2	+	+	+	+	+	+	+	+	+	+	+	+	+
BXP P2	+	+	+	+	+	+	+	+	+	+	+	+	+
BDL/U P2 (left) **BDR/U P2** (right)	+	+	+	+	+	-	+	+	+	-	-	+	+
BVU P2	+	+	+	+	+	+	+	+	+	+	+	+	+
BXU P2	+	+	+	+	+	+	+	+	+	+	+	+	+



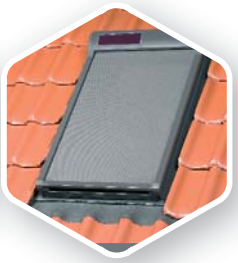
ROOF WINDOW ACCESSORIES

- FAKRO roof window accessories combine functional and operational features with attractive designs.
- Internal accessories can put the finishing touches on any roof window.
  The wide range of blind type, style and colour ensures complete harmony with your chosen décor and helps shape a room's character.
- Exterior accessories (awning and blind) effectively protect against excessive heating of the attic on hot summer days.
- Accurate adjustment of accessories to FAKRO roof windows ensures their quick and easy assembly.
  The original FAKRO accessories are characterized by high quality, innovative solutions and aesthetic appearance.

EXTERNAL ACCESSORIES

NEW LINE





Awning blinds AMZ

- **offers up to 8 times more effective protection** in comparison with internal blackout blinds
- effective shading of the room at the same time providing a view to the outside
- the best protection from tiresome heat

Control:

- **AMZ** manually operated or with the use rod (supplied in package)
- **AMZ Z-WAVE** system, controlled by remote control or wall switch
- **AMZ Solar** controlled by remote control

AWNING BLINDS FOR PIVOT WINDOWS (FT, PT)**; TOP HUNG AND PIVOT WINDOWS** (FP, PP preSelect®)

windows dimensions [cm] / size symbol	55x78 01	55x98 02	66x98 03	66x118 04	66x140 14	78x98 05	78x118 06	78x140 07	78x160 13	94x118 08	94x140 09	114x118 10	114x140 11	134x98 12
AMZ I *I group (089, 090)*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ II *II group (092)*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
NEW LINE **AMZ I** *I group (089, 090)*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
NEW LINE **AMZ II** *II group (092)*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ Z-Wave I* *I group (089, 090)*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ Z-Wave II* *II group (092)*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ Solar I** *I group (089, 090)*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AMZ Solar II** *II group (092)*	+	+	+	+	+	+	+	+	+	+	+	+	+	+



External roller shutters ARZ

- effective protection from tiresome heat
- shading of the room
- increased security
- increases the feeing of privacy
- acoustic protection against external noise

Control:

- ARZ-H operated manually from the inside with a crank (supplied in package)
- ARZ Z-Wave system, controlled by remote control or wall switch
- ARZ Solar controlled by remote control, recommended in places where there is no 230V power supply

EXTERNAL ROLLER SHUTTERS: ARZ-H FOR PIVOT WINDOWS (FT)**, ARZ Z-WAVE FOR PIVOT WINDOWS** (FT,PT) **AND FOR TOP HUNG AND PIVOT** (FP, PP preSelect®)

windows dimensions [cm] / size symbol	55x78 01	55x98 02	66x98 03	66x118 04	66x140 14	78x98 05	78x118 06	78x140 07	78x160 13	94x118 08	94x140 09	114x118 10	114x140 11	134x98 12
ARZ-H	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ARZ Z-Wave*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ARZ Solar**	+	+	+	+	+	+	+	+	+	+	+	+	+	+

* *The control and power devices should be purchased separately, details on the page with Z-Wave electrical control elements.*
** *The set includes a controller with a remote control and battery.*

INTERNAL ACCESSORIES



venetian blinds

AJP

- reduction of incoming light to the room
- control the direction and the amount of the light entering by changing the angle of the slats



dimming roller blind

ARP

- protection against sunlight during sunny days
- possibility to lock the blind in any position

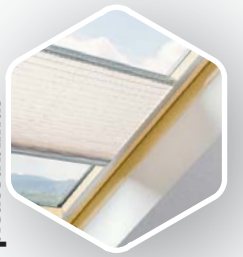


blackout blinds

ARF

- very good protection from sunlight
- possibility to lock the blind in any position
- partial protection from solar heat

pleated blinds

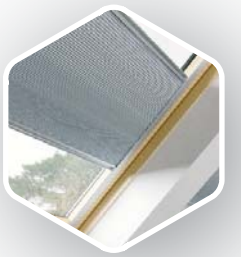




APS

- provide a soft and diffused light into the room
- possibility to lock the blind in any position
- top-down system-easy operation by top and bottom bar

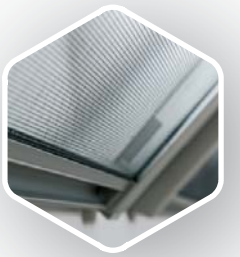
pleated blinds





APF

- gradual reduction of the incoming sunlight up to the black out
- possibility to lock the blind in any position
- top-down system - easy operation by using the upper and lower beams



insect screen

AMS

- protection against insects
- minimum shading of the room
- can be installed with other internal and external accessories

INTERIAL ACCESSORIES

windows dimensions [cm] size symbol	55x78 01	55x98 02	66x98 03	66x118 04	66x140 14	78x98 05	78x118 06	78x140 07	78x160 13	94x118 08	94x140 09	114x118 10	114x140 11	134x98 12
AJP I *I group*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
AJP II *II group*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ARP I *I group*	+	+	+	+	+	+	+	+	-	+	+	+	+	+
ARP II *II group*	+	+	+	+	+	+	+	+	-	+	+	+	+	+
ARF I *I group*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ARF II *II group*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
APS I *I group*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
APS II *II group*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
APF I *I group*	+	+	+	+	+	+	+	+	+	+	+	+	+	+
APF II *II group*	+	+	+	+	+	+	+	+	+	+	+	+	+	+

AMS commercial size lining opening width [cm] lining opening maximum height [cm]	55x170 49.5 170	55x200 49.5 200	66x200 60.5 200	66x240 60.5 240	78x200 72.5 200	78x240 72.5 240	94x200 88.5 200	94x240 88.5 240	114x200 108.5 200	114x240 108.5 240	134x200 128.5 200	134x240 128.5 240
AMS	+	+	+	+	+	+	+	+	+	+	+	+

ACCESSORIES FOR OPENING WINDOWS



ZST

telescopic control rod enables the user to operate windows, Venetian blinds, and other blinds positioned beyond beyond user's direct reach



ZBB

window restrictor -enabling safe sash opening in the tilt position up to 10cm



ZBL

aesthetic window lock ZBL in white, prevents accidental opening of the window, is mounted at the bottom of the window

INSTALLATION ACCESSORIES

FAKRO installation accessories guarantee quick and easy connection between the roof window and the roof construction. Using original installation accessories will allow the proper use of windows for many years.



XLC Internal lining

- ensures proper finish around the window from the inside of the room. The XLC -F for wooden windows, XLC -P for aluminum-plastic windows. The bottom part of lining perpendicular and the upper one parallel to the floor, ensures adequate lighting and proper air circulation over the surface of the glass.



XDP Insulating set

- designed to enable fast, tight air--permeable and thermal insulation around the window to be installed.
- the set consists of air-permeable membrane and thermo-insulating material made of natural wool in shape of wool cubes and wool tress.
- XDP insulation set together with XDS air-tight collar form a XDK insulation package



XDS Air-tight flashing

- is secured internally to form air--tight barrier around the window against warm and humid air as any moisture on the surface of the insulation greatly reduces its thermal insulation properties.

XDP Thermo*

- consists of a XWT Plus vapor permeable collar and insulating band.

INSTALLATION ACCESSORIES

windows dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
XLC-F 30 XLC-P 30	+	+	+	+	+	+	+	+	+	+	+	+	+	+
XDP	+	+	+	+	+	+	+	+	+	+	+	+	+	+
XDS	+	+	+	+	+	+	+	+	+	+	+	+	+	+
XDK (XDP+XDS)	+	+	+	+	+	+	+	+	+	+	+	+	+	+

** we advise to use it with FAKRO Thermo flashings*



USER FRIENDLY

ELECTRIC CONTROL Z-WAVE

- A System of solutions for the implementation in intelligent buildings
- Z-Wave is a wireless radio protocol used for communication with household electrical appliances. All electrical devices that have a Z-Wave system module can be connected to the network: Z-Wave windows, standard windows equipped with actuators with Z-Wave module, ARZ Z-Wave roller shutters and internal accessories AJP Z-Wave, ARF Z-Wave and ARP Z-Wave.
- In addition to the windows, you can connect rain and wind sensors, and integrate them with other home electrical appliances.
- It allows you to create a wireless network and control the products with the Z-Wave module using wireless keyboard, remote control, mobile phone or Internet.
- The installation of the system does not require the use of any switchboards or communication cables between the electrical devices, which obviously reduces costs and assembly time.
- The Z-Wave system is easy to install, easy to expand and control regardless of your building stage.
- FAKRO products equipped with the Z-Wave module cooperate with FIBARO electronics. Through the FIBARO control panel - Home Center 2, we can create a smart home that will be operated using your smartphone application from anywhere on earth.

FAKRO smartHome

WORKS WITH FIBARO®

Z-WAVE CONTROLLING DEVICES



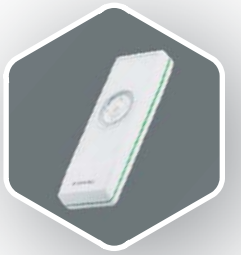
ZWS 12

electric actuator Z-Wave for opening roof windows. Also available in the version (ZWS 230 and ZWZ 230).



ZRW7

keyboard is designed to operate a combination of products separately or simultaneously



ZRH12

remote is designed to operate a combination of products separately or simultaneously



ZRS 24

multi-functional Z-wave remote control which allows to configure all devices integrated within the Z-wave network



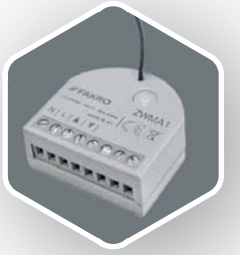
ZWL 1

radio controller Z-Wave used for the remote control of a single Z-Wave device or a group of devices. Available in version ZWL2-double controller and in ZWL3 triple controller version



ZZ 60

15VDC impulse power supply to electrical devices. Also available in the hermetic housing (ZZ 60h)



ZWMA1

bridge module radio controller designed to control a single device or a group of devices by means of potential-free contacts



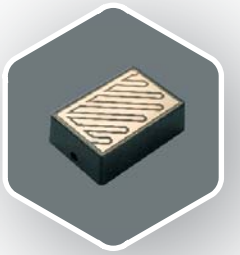
ZWMA4

4-channel bridge module Z-Wave remote control designed to control Z-Wave devices of another control system



ZWMP

weather module designed to control -Z-Wave devices by ZRD rain sensor, ZWD wind sensor and ZFD smoke sensor



ZRD

rain sensor in cooperation with ZWMP weather module controls Z-Wave device eg. closes window during the rain



ZWD

wind sensor in cooperation with ZWMP weather module allows closing the window in case of strong gusts of wind



ZFD

smoke detector in cooperation with ZWMP weather module opens Z-Wave window upon detecting visible smoke



FWP WS_, WG_ WLI

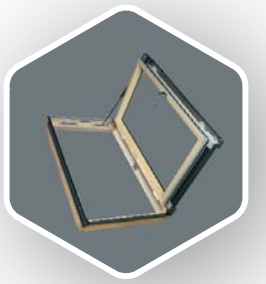
Pic. FWP (right)

EASY ACCESS TO THE ROOF

ACCESS ROOF LIGHTS

- Roof access windows provide fast, safe and easy access to the roof for conservation and required maintenance work. Depending on the room type in the attic (inhabited or uninhabited) a range of access windows can be used.
- The universal wooden FWP escape window enables to change the opening sides; change of the opening side is made by the customer during the installation process.
- Factory delivered as a right opening roof exit, but can be delivered in left opening version as well.

UNIVERSAL SIDE HUNG AND ESCAPE WINDOW

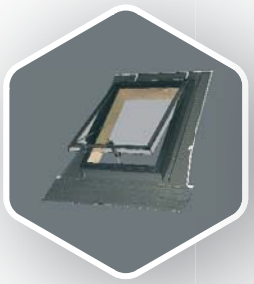


FWP

The highest quality pine wood, glued in layers, vacuum impregnated.
Double coated wood with ecological acrylic lacquer.
Installed with standard FAKRO windows flashings at 3 installation depths N, V, J. Can be combined with other windows, e.g. FTP or FPP by means of standard flashings for combinations, e.g. KZV.
Installation pitch: 15-55 degrees.
Cladding can be made in any colour from the RAL palette. It can also be manufactured from copper or titanium-zinc.

STANDARD ACCESS ROOF LIGHT

FOR UNINHABITED ROOMS



WS_

has a top hung structure with semi-circular polycarbonate dome which opens upwards up to an angle of 180°, ensuring easy access to the roof and effective room illumination. The material used features increased resistance to weather conditions,

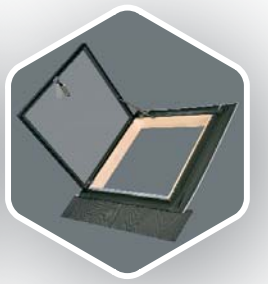
suitable for pitches from 15-60°, comes with an integrated flashing compatible with most tile type roofs.



WG_

access roof light has a top hung design and the sash opens outwards, available in two versions:
WGT with single toughened glass 4H,
WGI with glazing unit 4H-9-4H and gas spring,

suitable for pitches from 15-60°



WLI

access roof light opens to the side, equipped with glazing unit with external and internal glass toughened 4H-8-4H .
It can be installed in left or right opening version.
It comes complete with a turn limiter to hold the sash stable and prevent accidental closure.

suitable for pitches from 15-70°

THE FWP U3, P2, U5, P5 SIDE HUNG ESCAPE WINDOW

window dimensions [cm] size symbol	66x78 22	66x98 03	66x118 04	78x98 05	78x118 06	94x118 08	94x98 15
FWP U3	+	+	+	+	+	+	+
FWU U3	+	+	+	+	+	+	+
FWP P2	+	+	+	+	+	+	+
FWU P2	+	+	+	+	+	+	+
FWP U5	+	+	+	+	+	+	+
FWU U5	+	+	+	+	+	+	+
FWP P5	+	+	+	+	+	-	+
FWU P5	+	+	+	+	+	-	+

STANDARD ACCESS ROOF LIGHTS WITH FLASHING

window dimensions [cm]	54x75	86x86
WSS flashing for flat roof coverings	+	+
WSZ flashing for profiled roof coverings	+	+
WSH flashing for high profiled roof coverings	+	+

window dimensions [cm]	46x55	46x75
WGT integrated with universal flashing*	+	+
WGI integrated with universal flashing*	+	+

window dimensions [cm]	54x83	86x87
WLI integrated with universal flashing*	+	+

**particularly suited to tile roofs*





FAKRO®

www. fakro.com

FAKRO reserves the right to change specifications and technical parameters of products without prior notice.

FP/44-/EN/09.06.2021/ **B03E**

Neslužbeni prevod na crnogorski jezik

Neslužbeni prevod na crnogorski jezik, Ymalko Montenegro. Mjerodavan je originalni dokument: fakro-catalogue-products-en.pdf, https://www.fakro.com/att/LOCAL/catalogs/products/FAKRO_products.pdf.

Dokument: „Katalog proizvoda FAKRO (ME)“

Ovaj prevod je pripremio Ymalko Montenegro kao pomoć pri čitanju. Nije dokument proizvođača i ne zamjenjuje ga. U slučaju bilo kakve razlike ili nejasnoće važi originalni dokument proizvođača.

Stranice 1–35 su prevod; stranice 36–79 su originalni dokument proizvođača FAKRO, priložen bez izmjena.

Nazivi proizvoda, šifre, standardi, oznake mjernih jedinica i sve brojčane vrijednosti preneseni su tačno kako su odštampani u originalu.

Datum prevoda: 01.10.2026.